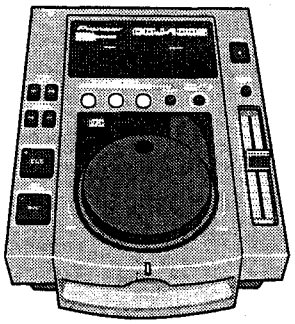
Service Manual

Pioneer



PION -05601

ORDER NO.
RRV2027

COMPACT DISC PLAYER

CDJ-100S

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	CDJ-100S		
KUC	O	AC120V	———
RL	O	AC110–120V/220–240V	With the voltage selector
WY	O	AC220–240V	———

CONTENTS

1. SAFETY INFORMATION 2
2. EXPLODED VIEWS AND PARTS LIST 4
3. SCHEMATIC DIAGRAM 10
4. PCB CONNECTION DIAGRAM 24
5. PCB PARTS LIST 30
6. ADJUSTMENT 33
7. GENERAL INFORMATION 39
   7.1 PARTS 39
      7.1.1 IC 39
      7.1.2 DISPLAY 41
   7.2 DIAGNOSIS 42
      7.2.1 ERROR DISPLAY 42
      7.2.2 DISASSEMBLY 42
   7.3 BLOCK DIAGRAM 46
8. PANEL FACILITIES AND SPECIFICATIONS 47

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

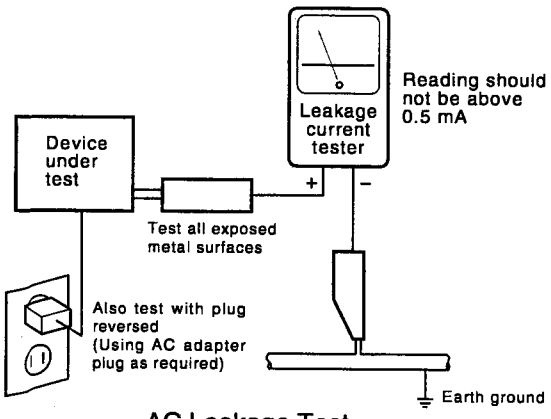
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Leakage current tester
Reading should not be above 0.5 mA
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage , etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

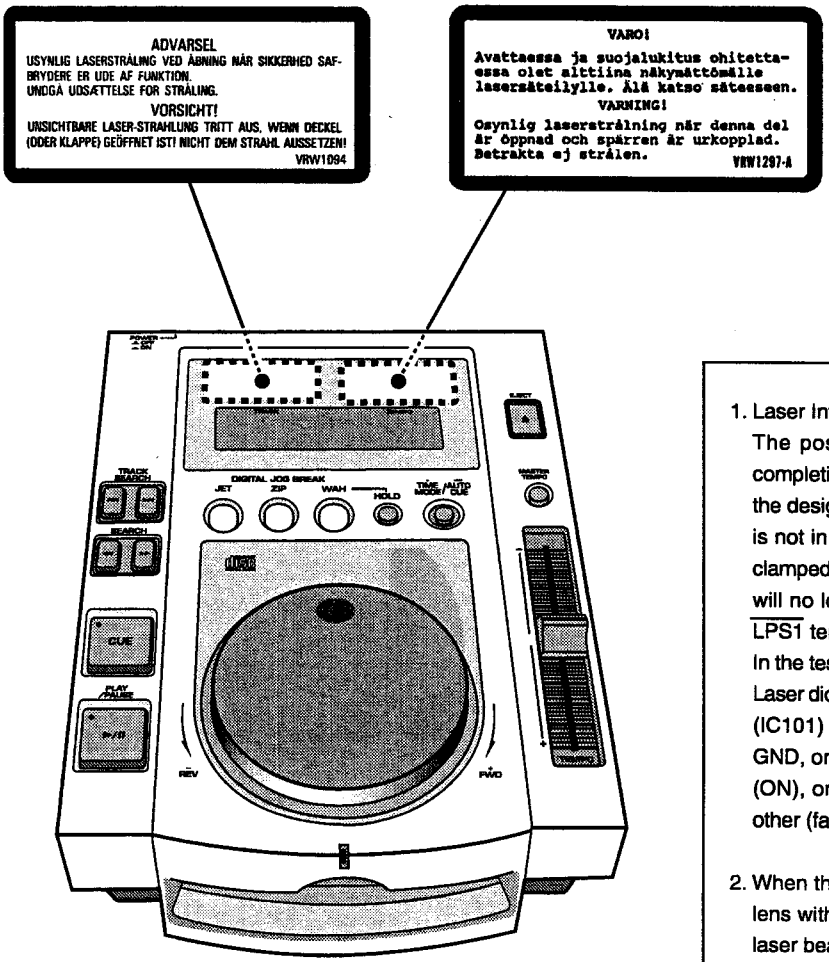
IMPORTANT

THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS

MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780 – 785 nm

LABEL CHECK (for WY type)


ADVARSEL
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHED SAFBRYDERE ER UDE AF FUNKTION.
UNDGÅ UDSÆTTELSE FOR STRÅLING.
VORSICHT!
UNSICHTBARE LASER-STRAHLUNG TRITT AUS, WENN DECKEL (ODER KLAPPE) GEÖFFNET IST! NICHT DEM STRAHL AUSSETZEN!
VRW1094
VARO!
Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.
VARNING!
Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.
VRW1297-A

Additional Laser Caution

1. Laser Interlock Mechanism
   The position of the switch (S1) for detecting loading completion is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch is not in $\overline{\text{LPS1}}$ terminal side (when the mechanism is not clamped and $\overline{\text{LPS1}}$ signal is high level.) Thus, the interlock will no longer function if the switch is deliberately set to $\overline{\text{LPS1}}$ terminal side. (if $\overline{\text{LPS1}}$ signal is low level)
   In the test mode* the interlock mechanism will not function. Laser diode oscillation will continue, if pin 33 of CXA1782CQ (IC101) on the MOTHER BOARD ASSY is connected to GND, or pin 43 of IC701 ($\overline{\text{LDON}}$) is connected to low level (ON), or else the terminals of Q101 are shorted to each other (fault condition).

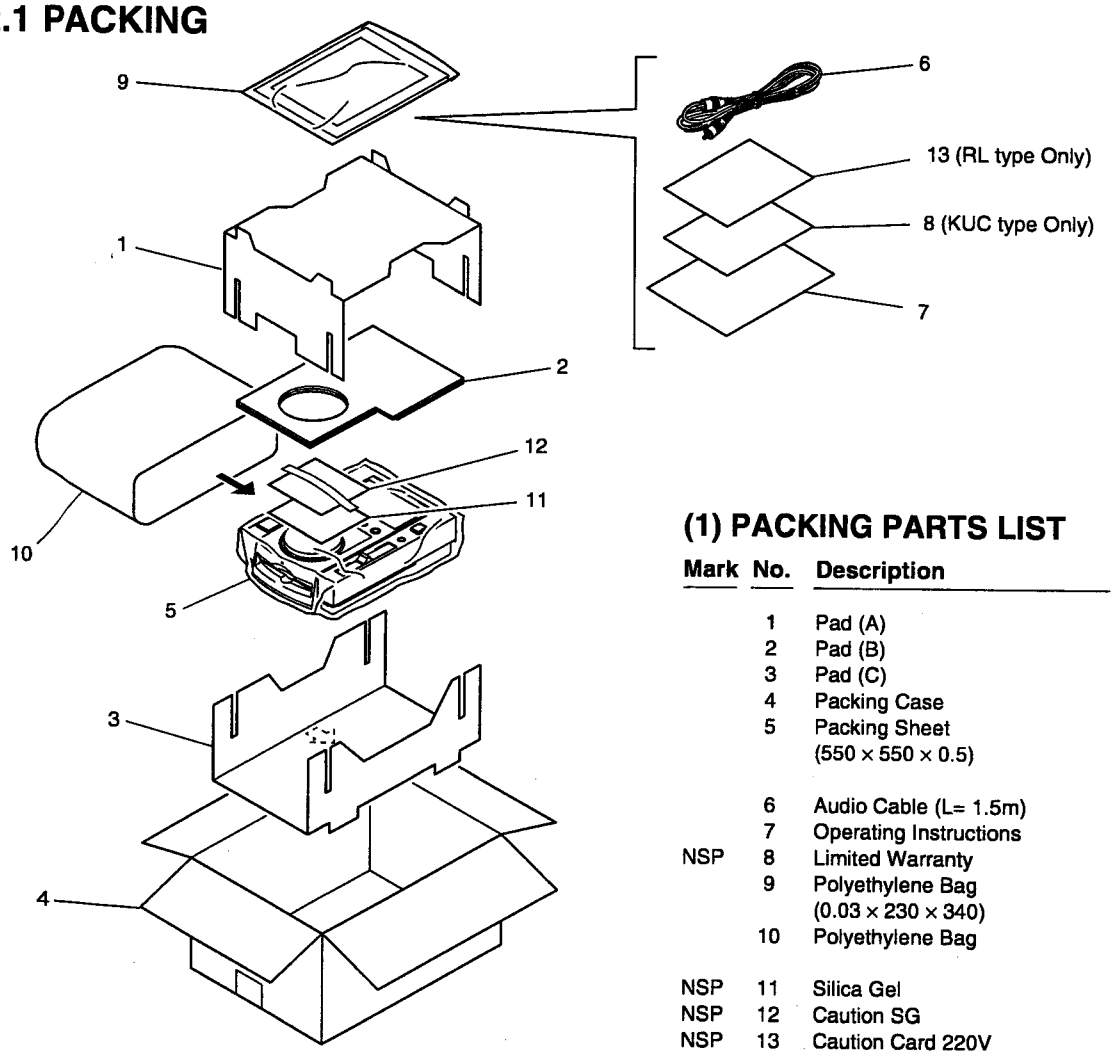
2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

* : Refer to page 34.

2. EXPLODED VIEWS AND PARTS LIST

NOTES :
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screw adjacent to ▼ mark on the product are used for disassembly.*

2.1 PACKING



(1) PACKING PARTS LIST

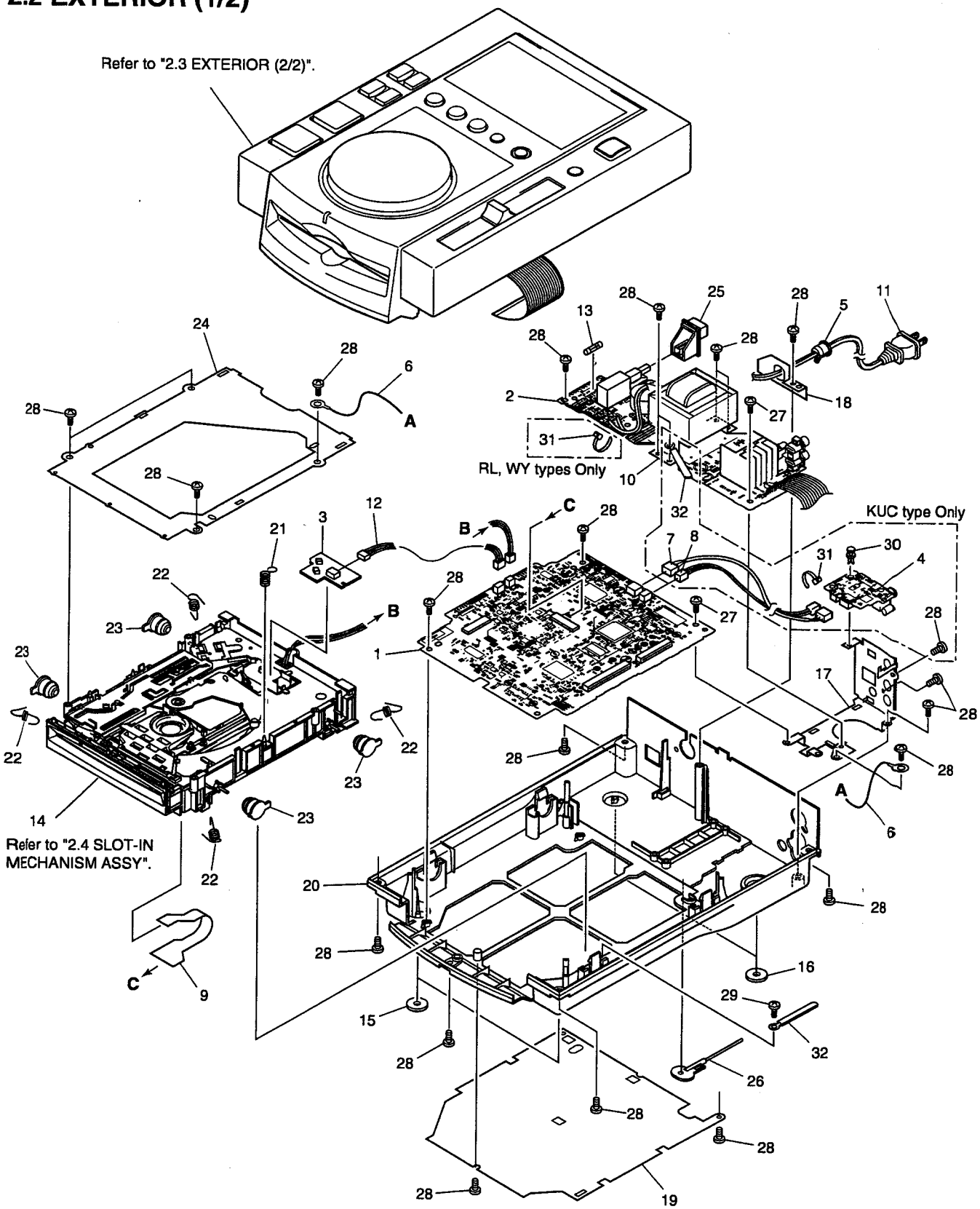
Mark	No.	Description	Part No.
	1	Pad (A)	DHA1411
	2	Pad (B)	DHA1412
	3	Pad (C)	DHA1413
	4	Packing Case	See Contrast table (2)
	5	Packing Sheet (550 × 550 × 0.5)	Z23–026
	6	Audio Cable (L= 1.5m)	VDE1033
	7	Operating Instructions	See Contrast table (2)
NSP	8	Limited Warranty	See Contrast table (2)
	9	Polyethylene Bag (0.03 × 230 × 340)	Z21–038
	10	Polyethylene Bag	DHL1106
NSP	11	Silica Gel	AEN7001
NSP	12	Caution SG	DRM1199
NSP	13	Caution Card 220V	See Contrast table (2)

(2) CONTRAST TABLE

CDJ-100S/KUC, RL and WY are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			KUC type	RL type	WY type	
	4	Packing Case	DHG1852	DHG1851	DHG1850	
	7	Operating Instructions (English)	DRB1232	Not used	Not used	
	7	Operating Instructions (English/Spanish/Chinese)	Not used	DRB1229	Not used	
	7	Operating Instructions (English/French/German/Italian/ Dutch/Spanish)	Not used	Not used	DRB1227	
NSP	8	Limited Warranty	DRY1177	Not used	Not used	
NSP	13	Caution Card 220V	Not used	ARR7003	Not used	

2.2 EXTERIOR (1/2)



(1) EXTERIOR (1/2) PARTS LIST

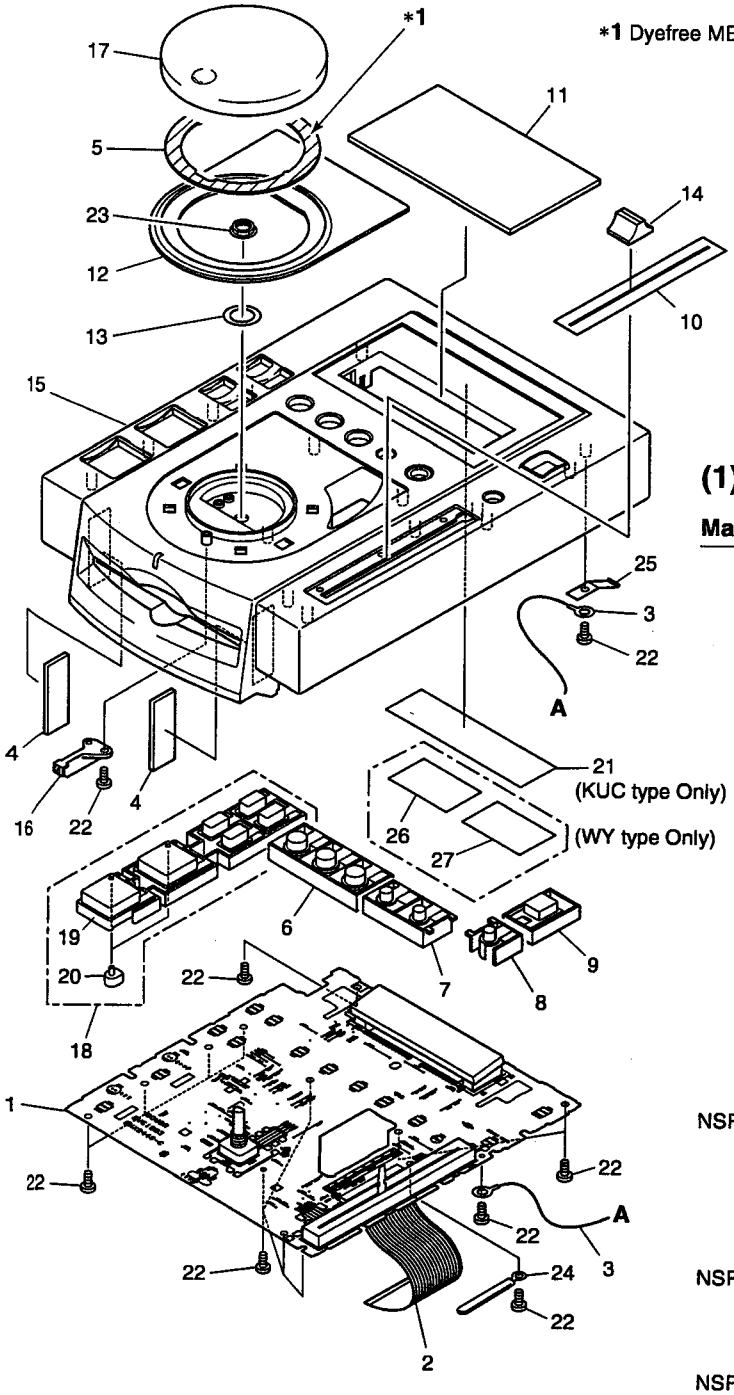
Mark	No.	Description	Part No.
	1	MOTHER BOARD ASSY	See Contrast table (2)
	2	TRANS BOARD ASSY	See Contrast table (2)
NSP	3	SL MECHA BOARD ASSY	DWS1294
NSP	4	DIGITAL OUT BOARD ASSY	See Contrast table (2)
	5	Strain Relief	See Contrast table (2)
	6	Earth Lead Unit/300V	DDF1010
	7	Connector Assy	See Contrast table (2)
	8	Connector Assy (2P)	See Contrast table (2)
	9	S Flex	DNP1748
⚠	10	Power Transformer	See Contrast table (2)
⚠	11	AC Power Cord	See Contrast table (2)
⚠	12	Connector Assy	PF03PP-B30
⚠	13	Fuse (FU1)	See Contrast table (2)
NSP	14	Slot-in Mechanism Assy	DXA1845
	15	Insulator	DEC2235
	16	Insulator MO	DEC2250
	17	Earth Plate	DNF1588
	18	Cable Stay	DNF1589
	19	Bottom Plate	See Contrast table (2)
NSP	20	Chassis	See Contrast table (2)
	21	Earth Spring	DBH1398
	22	Float Spring	DBH1428
	23	Damper	DEC2236
	24	Mecha Holder	DNH2339
	25	Power Knob	DAC1895
	26	Push Rod	DEX1008
	27	Screw	BBZ30P080FMC
	28	Screw	BPZ30P080FZK
	29	Screw	BPZ30P140FMC
	30	Nylon Rivet (3 × 4.5)	See Contrast table (2)
	31	Binder	ZCA-SKB90BK
NSP	32	Binder	Z09-061

(2) CONTRAST TABLE

CDJ-100S/KUC, RL and WY are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			KUC type	RL type	WY type	
	1	MOTHER BOARD Assy	DWM2078	DWM2079	DWM2079	
	2	TRANS BOARD Assy	DWR1298	DWR1301	DWR1300	
NSP	4	DIGITAL OUT BOARD Assy	DWZ1082	Not used	Not used	
	5	Strain Relief	CM-22C	CM-22B	CM-22B	
	7	Connector Assy	DKP3408	Not used	Not used	
	8	Connector Assy (2P)	DKP3409	Not used	Not used	
⚠	10	Power Transformer (AC120V)	DTT1148	Not used	Not used	
⚠	10	Power Transformer (AC110-120V/220-240V)	Not used	DTT1149	Not used	
⚠	10	Power Transformer (AC220-240V)	Not used	Not used	DTT1150	
⚠	11	AC Power Cord	PDG1063	PDG1003	PDG1003	
⚠	13	Fuse (FU1)	VEK1009	AEK1051	AEK1051	
	19	Bottom Plate	DNH2341	DNH2338	DNH2338	
NSP	20	Chassis	DNK3562	DNK3561	DNK3553	
	30	Nylon Rivet (3 × 4.5)	RBM-003	Not used	Not used	

2.3 EXTERIOR (2/2)



*1 Dyefree ME-413A: ZLX-ME413A

(1) EXTERIOR (2/2) PARTS LIST

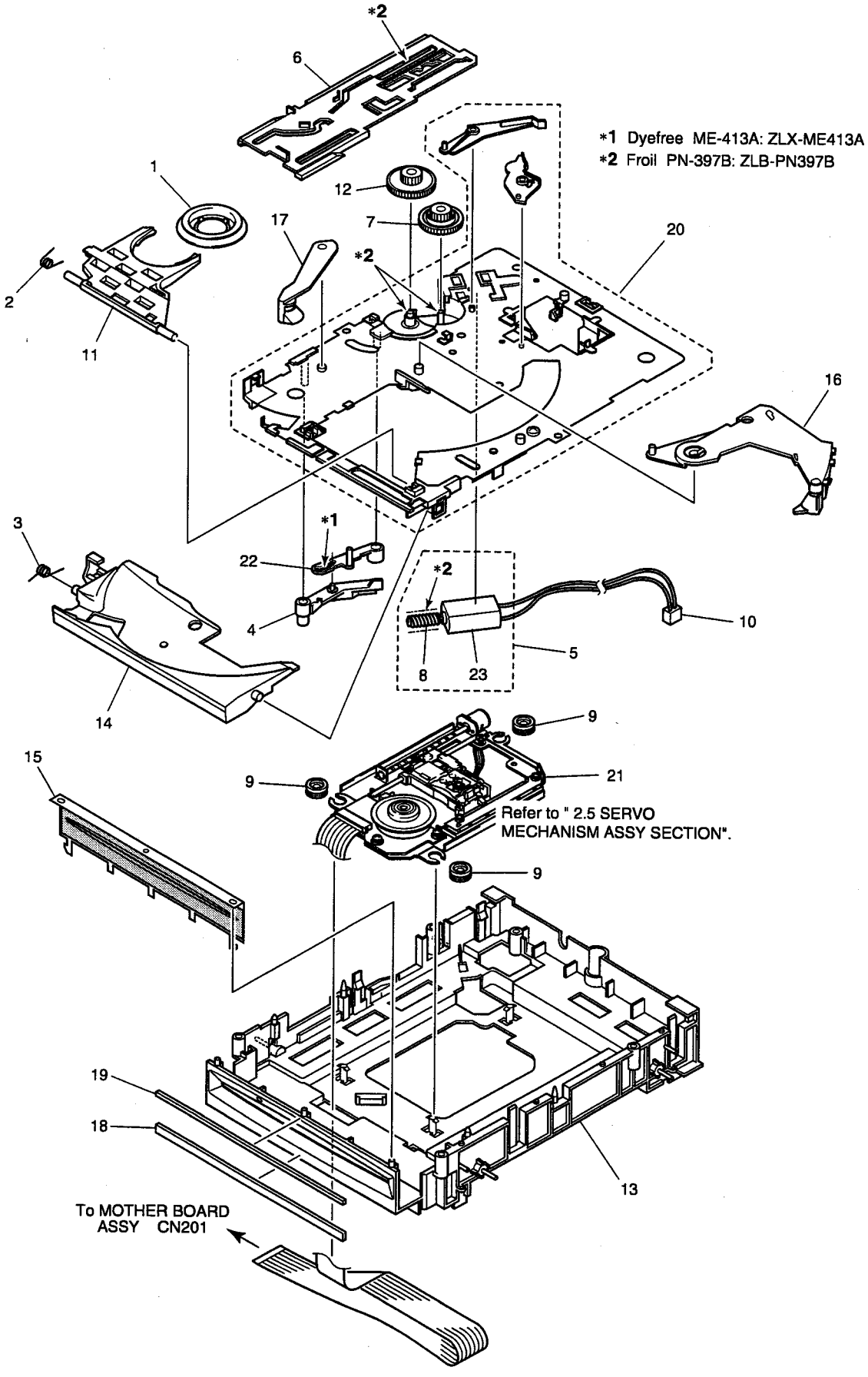
Mark	No.	Description	Part No.
	1	DISPLAY BOARD ASSY	DWG1503
	2	36P F-F-C/60V	DDD1131
	3	Earth Lead Unit/300V	PDF1104
	4	Cushion C	DEC2259
	5	POM Ring	DNK3556
	6	Knob B	DAC1891
	7	Time Knob	DAC1892
	8	MT Knob	DAC1893
	9	Eject Knob	DAC1894
	10	Slide Sheet	DAH1855
	11	Display Plate	DAH1886
	12	Ring Plate	DAH1887
	13	Jog Washer	DBF1001
	14	Slide Knob	DNK2936
	15	Control Panel	DNK3552
	16	Disc Indicator	DNK3555
	17	Jog Dial	DNK3625
	18	Knob A Assy	DXA1846
NSP	19	Knob A	DAC1890
	20	LED Lens	PNW2019
	21	65 Label	See Contrast table (2)
	22	Screw	BPZ30P080FZK
	23	Nut (M9)	DBN1004
NSP	24	Binder	Z09-051
	25	Earth Plate	VBK1070
	26	Caution Label	See Contrast table (2)
NSP	27	Caution Label HE	See Contrast table (2)

(2) CONTRAST TABLE

CDJ-100S/KUC, RL and WY are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			KUC type	RL type	WY type	
	21	65 Label	ORW1069	Not used	Not used	
	26	Caution Label	Not used	Not used	VRW1094	
NSP	27	Caution Label HE	Not used	Not used	VRW1297	

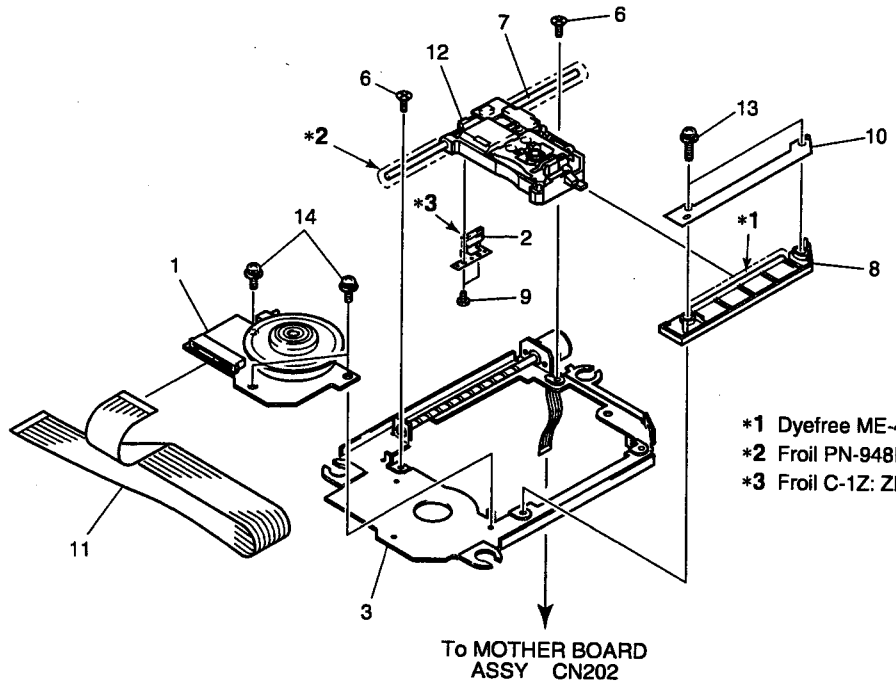
2.4 SLOT-IN MECHANISM ASSY


*1 Dyefree ME-413A: ZLX-ME413A
*2 Froil PN-397B: ZLB-PN397B
Refer to " 2.5 SERVO MECHANISM ASSY SECTION".
To MOTHER BOARD ASSY CN201

■ SLOT-IN MECHANISM ASSY PARTS LIST

Mark	No.	Description	Part No.
	1	Clamper Assy	DXA1821
	2	Clamp Spring	DBH1374
	3	Guide Spring	DBH1375
	4	Lever B	DNK3558
	5	Loading Motor Assy-S	DEA1008
	6	Main Cam	DNK3407
	7	Loading Gear	DNK3409
NSP	8	Worm Gear	DNK3410
	9	Mount Bush	DEB1328
	10	Connector Assy	PF02PY-B27
	11	Clamp Arm	DNK3404
	12	Drive Gear	DNK3565
	13	Float Base Assy	DXB1683
	14	Disc Guide	DNK3478
	15	Front Sheet	DED1132
	16	Eject Lever	DNK3548
	17	Loading Lever	DNK3406
	18	Cushion A	DEC2257
	19	Cushion B	DEC2258
	20	Loading Base Assy-S	DXX2431
	21	Servo Mechanism Assy-S	DXX2432
	22	Lever A	DNK3564
NSP	23	Loading Motor	DXM1093

2.5 SERVO MECHANISM ASSY



*1 Dyefree ME-413A: ZLX-ME413A
*2 Froil PN-948P: ZLB-PN948P
*3 Froil C-1Z: ZLB-C1Z

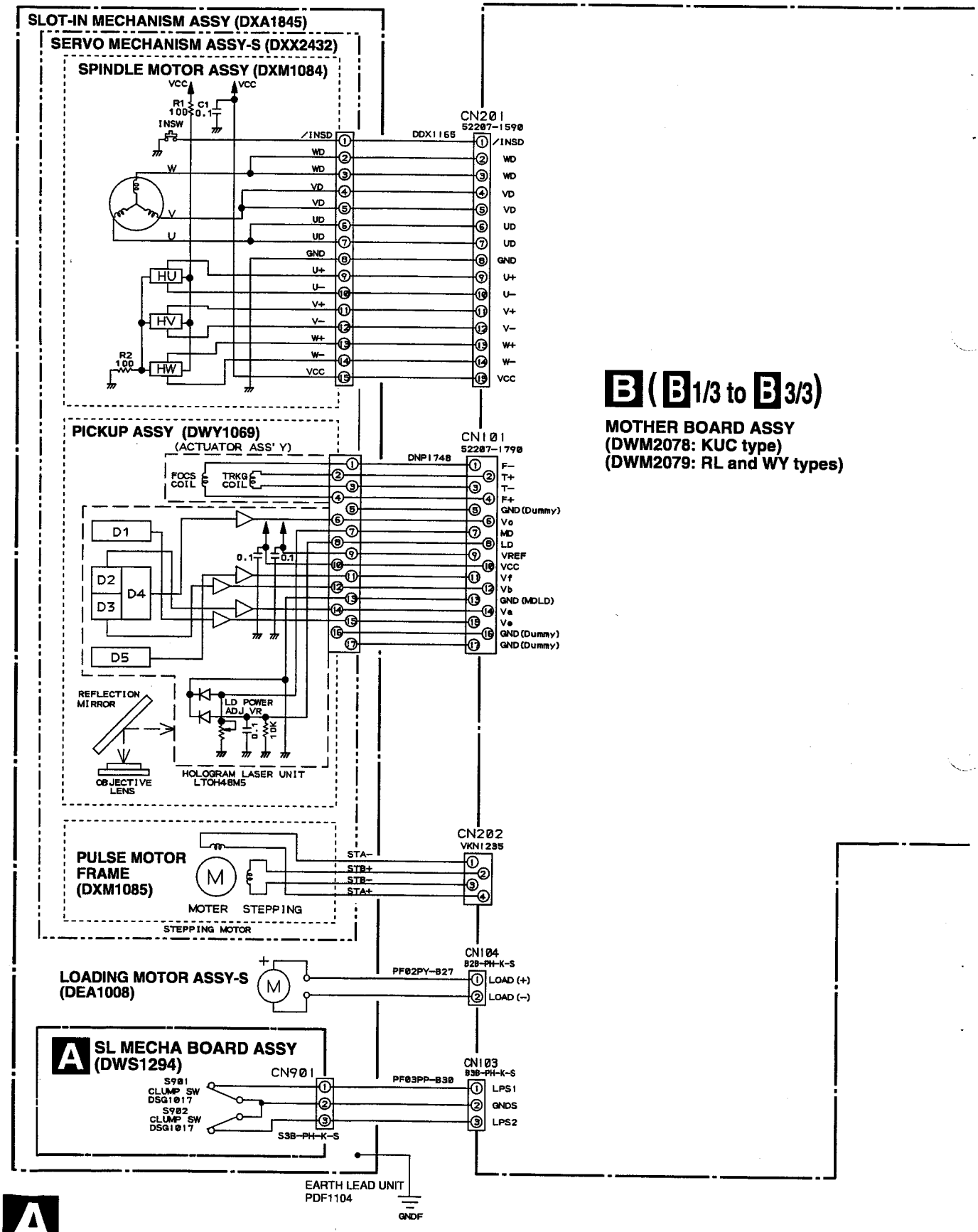
■ SERVO MECHANISM ASSY PARTS LIST

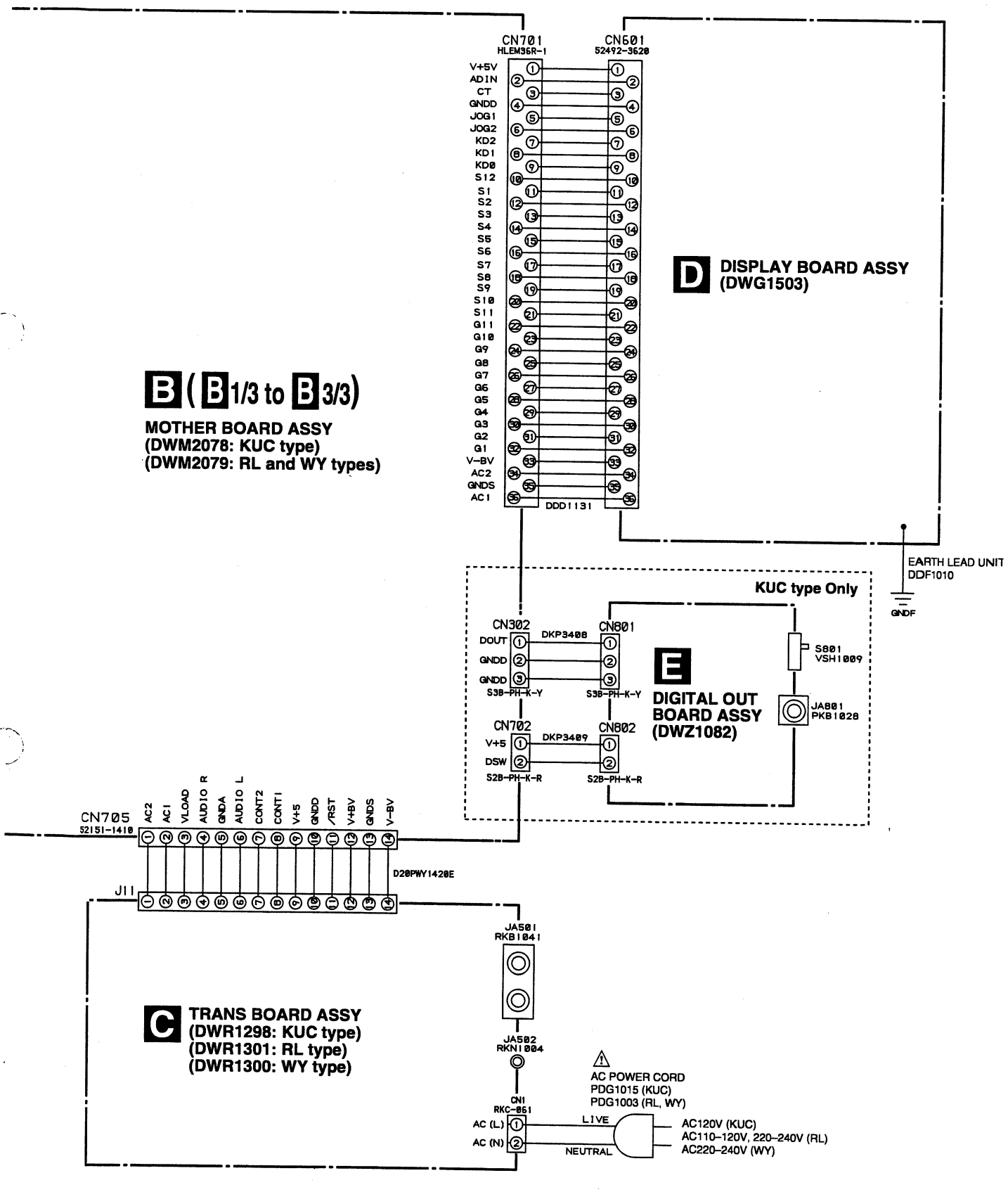
Mark	No.	Description	Parts No.
	1	Spindle Motor	DXM1084
	2	Screw Guide	DNK3238
	3	Pulse Motor Frame	DXM1085
	4	.....	
	5	.....	
	6	Screw	CMZ20P060FMC
	7	Guide Shaft	DLA1731
	8	Sub Guide Shaft	DNK3638
	9	Screw	ABA1022
	10	Stopper	DNH3355
	11	SPD Card	DDX1165
NSP	12	Pickup Assy	DWY1069
	13	Screw	PMA20P080FMC
	14	Screw	PMH20P040FCC

3. SCHEMATIC DIAGRAM

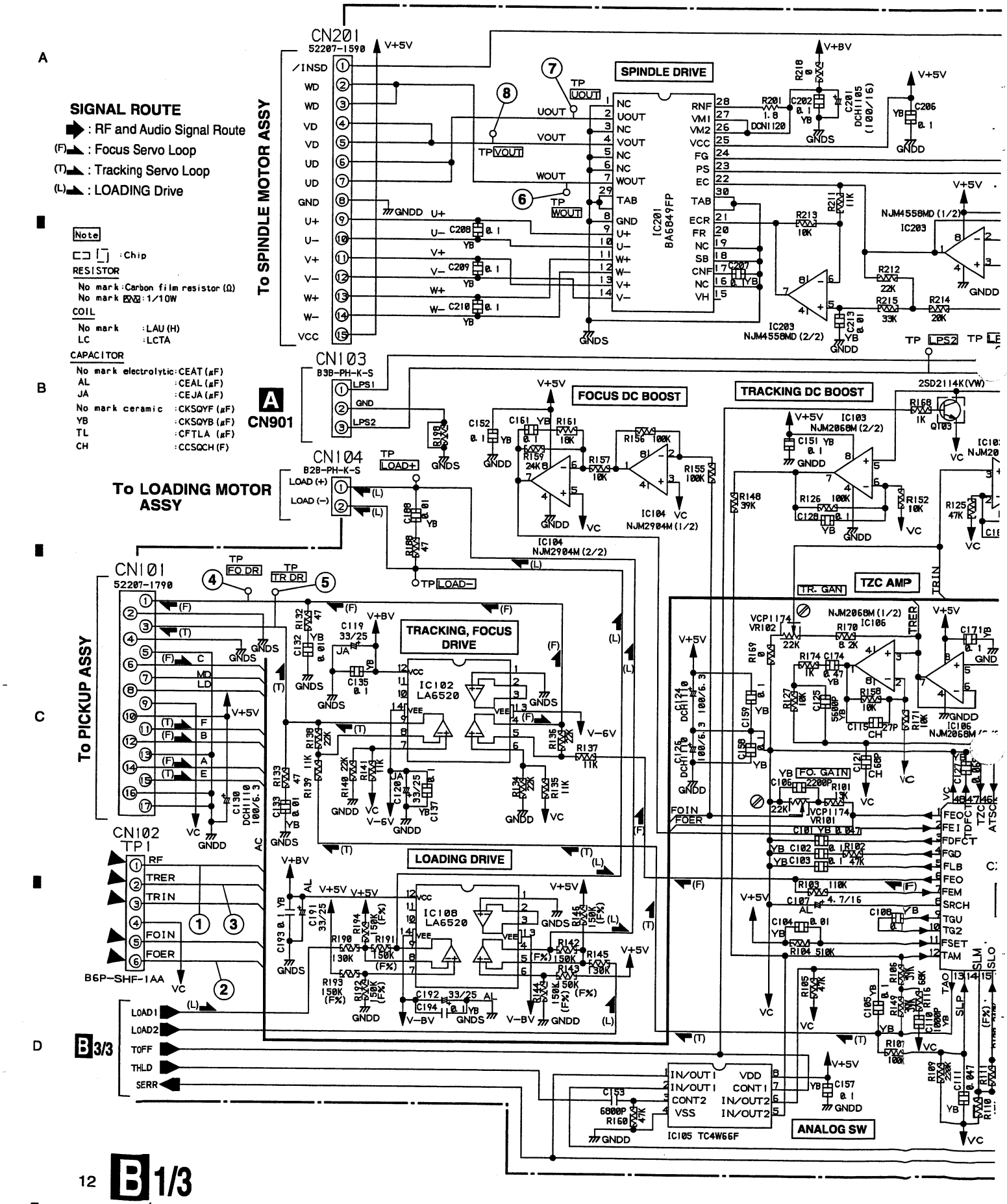
Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "PCB PARTS LIST".

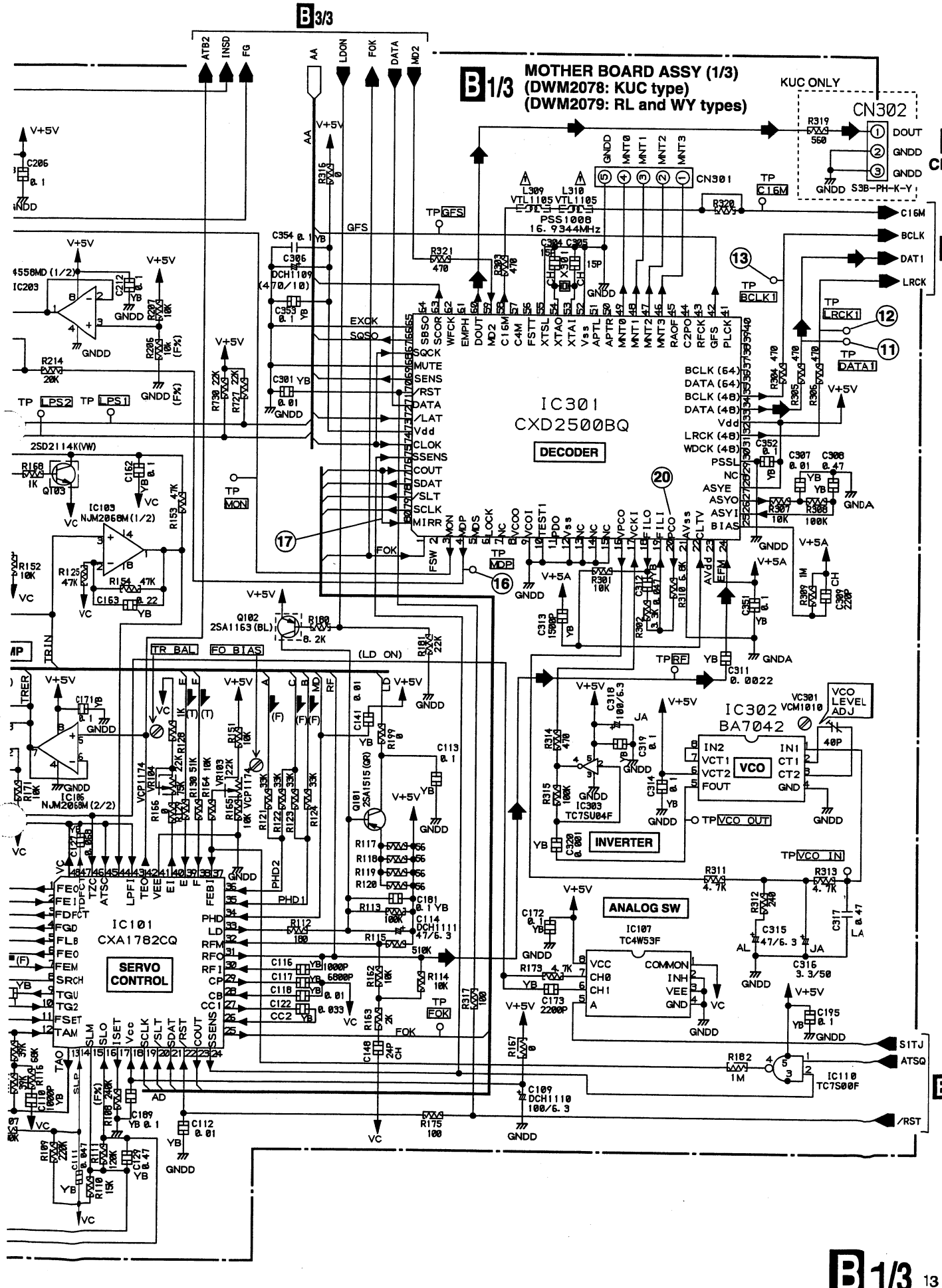
3.1 OVERALL CONNECTION DIAGRAM




CN701
HLEM36R-1
CN601
52492-3620
V+5V
ADIN
CT
GNDD
JOG1
JOG2
KD2
KD1
KD0
S12
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
G11
G10
G9
G8
G7
G6
G5
G4
G3
G2
G1
V-BV
AC2
GNDS
AC1
DDD1131
D DISPLAY BOARD ASSY
(DWG1503)
B (B 1/3 to B 3/3)
MOTHER BOARD ASSY
(DWM2078: KUC type)
(DWM2079: RL and WY types)
EARTH LEAD UNIT
DDF1010
GNDF
KUC type Only
CN302
DOUT
GNDD
GNDD
S3B-PH-K-Y
DKP3408
CN801
S3B-PH-K-Y
S801
VSH1009
JA801
PKB1028
E
DIGITAL OUT
BOARD ASSY
(DWZ1082)
CN702
V+5
DSW
S2B-PH-K-R
DKP3409
CN802
S2B-PH-K-R
CN705
52151-1410
AC2
AC1
VLOAD
AUDIO R
GNDA
AUDIO L
CONT2
CONT1
V+5
GNDD
/RST
V+8V
GNDS
V-8V
D28PWY1420E
J11
JA501
RKB1041
JA502
RKN1004
C TRANS BOARD ASSY
(DWR1298: KUC type)
(DWR1301: RL type)
(DWR1300: WY type)
CN1
RKC-861
AC (L)
AC (N)
LIVE
NEUTRAL
AC POWER CORD
PDG1015 (KUC)
PDG1003 (RL, WY)
AC120V (KUC)
AC110–120V, 220–240V (RL)
AC220–240V (WY)

3.2 MOTHER BOARD ASSY (1/3)



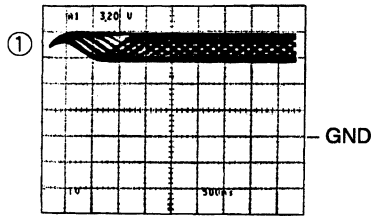

B 1/3
MOTHER BOARD ASSY (1/3)
(DWM2078: KUC type)
(DWM2079: RL and WY types)
KUC ONLY
CN302
CN801
CN301
IC301
CXD2500BQ
DECODER
IC302
BA7042
VCO
INVERTER
IC303
TC7SU04F
IC101
CXA1782CQ
SERVO CONTROL
IC103
NJM2068M(1/2)
IC106
NJM2068M(2/2)
IC107
TC4W53F
ANALOG SW
IC110
TC7S00F
VCO LEVEL ADJ
B 3/3
B 2/3
E
B 1/3 13

Waveforms of MOTHER BOARD ASSY (1/3)

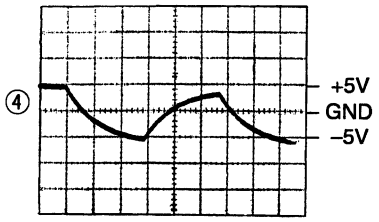
Note : The encircled numbers denote measuring points in the schematic diagram.

*1 14T-JUMP : After switching to the pause mode, Press the manual search key.

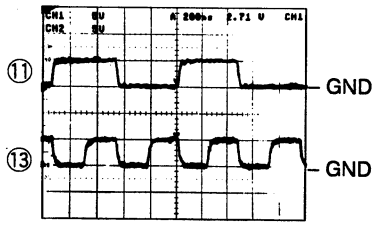
① TP1 – Pin 1 : PLAY MODE (RF)
1 V/div, 500 ns/div



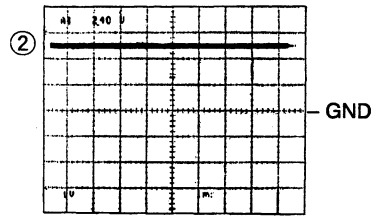
④ TP – FODR : TEST MODE (FOCUS IN)
5 V/div, 200 ms/div



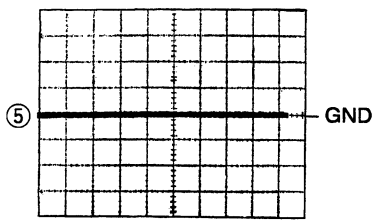
⑪ TP – DATA1
⑬ TP – BCLK1
PLAY MODE
5 V/div, 200 ns/div



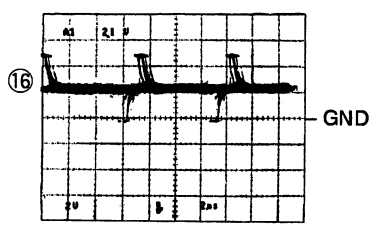
② TP1 – Pin 6 : PLAY MODE (FOER)
1 V/div, 1 ms/div



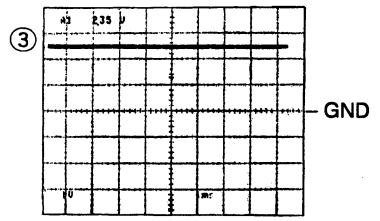
⑤ TP – TRDR : PLAY MODE
1 V/div, 1 ms/div



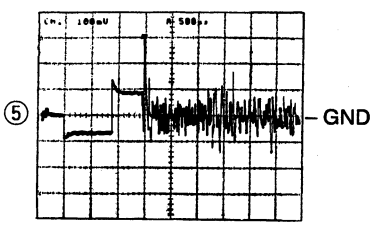
⑯ TP – MDP : PLAY MODE
2 V/div, 2 µs/div



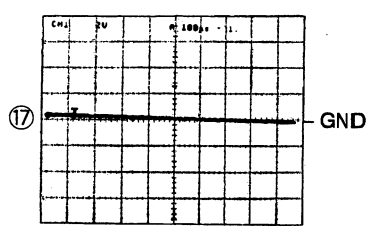
③ TP1 – Pin 2 : PLAY MODE (TRER)
1 V/div, 1 ms/div



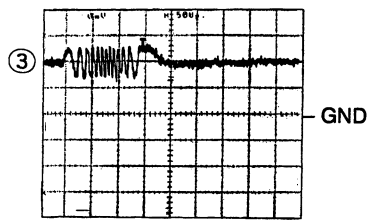
⑤ TP – TRDR : 14T-JUMP (*1) MODE
1 V/div, 200 µs/div



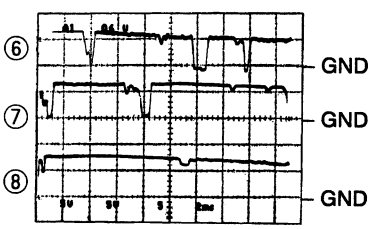
⑰ IC301-Pin80(MIRR) : PLAY MODE
2 V/div, 100 µs/div



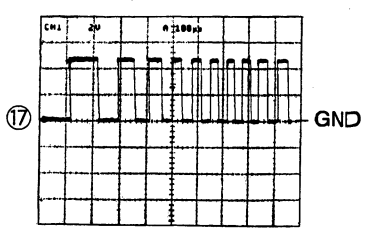
③ TP1 – Pin 2 : 14T-JUMP (*1) MODE (TRER)
1 V/div, 2 ms/div



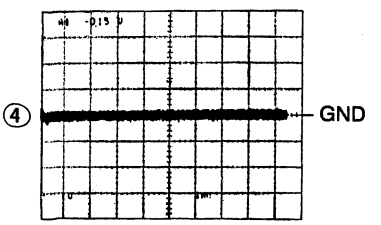
⑥ TP – WOUT
⑦ TP – UOUT
⑧ TP – VOUT
PLAY MODE
5 V/div, 2 ms/div



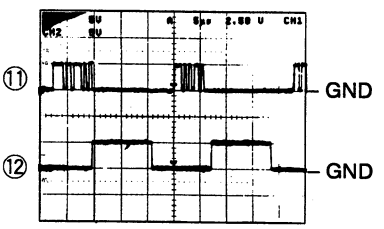
⑰ IC301-Pin80(MIRR) : 14T-JUMP (*1) MODE
2 V/div, 100 µs/div



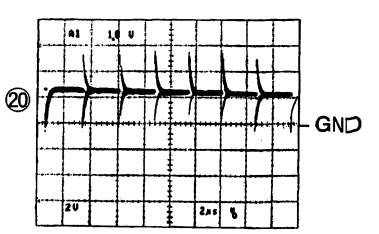
④ TP – FODR : PLAY MODE
1 V/div, 1 ms/div



⑪ TP – DATA1
⑫ TP – LRCK1
PLAY MODE
5 V/div, 5 µs/div



⑳ IC301 – Pin20 (PCO) : PLAY MODE
2 V/div, 2 µs/div



Voltages of MOTHER BOARD ASSY (1/3)

Set: DJ mode PLAY

IC101
(CXA1782CQ)

No.	Voltage [V]	No.	Voltage [V]
1		25	+4.9
2		26	+0.6
3	+2.5	27	+0.7
4		28	+1.6
5		29	+2.3
6	+2.7	30	+2.5
7	+2.5	31	+3.5
8	+2.7	32	+2.5
9	+2.5	33	+3.4
10		34	0
11	+0.8	35	
12		36	
13		37	+2.5
14	+2.5	38	
15		39	
16		40	+2.2
17	+1.2	41	0
18	+4.9	42	
19		43	
20	0 to +5	44	+2.5
21		45	
22	+4.9	46	
23	0 to +5	47	+2.4
24		48	+2.5

IC102
(LA6520)

No.	Voltage [V]
1	
2	0
3	
4	−0.3
5	
6	+1.6
7	
8	
9	−0.1
10	
11	0
12	+8.0
13	
14	−8.7

IC103
(NJM2068M)

No.	Voltage [V]
1	
2	+2.5
3	
4	0
5	
6	+2.5
7	
8	+4.9

IC105
(TC4W66F)

No.	Voltage [V]
1	+2.6
2	+2.5
3	
4	0
5	
6	+2.5
7	0
8	+4.9

IC107
(TC4W53F)

No.	Voltage [V]
1	+2.5
2	
3	
4	0
5	
6	
7	+2.5
8	+4.9

IC108
(LA6520)

No.	Voltage [V]
1	
2	
3	0
4	
5	
6	+2.5
7	
8	
9	
10	0
11	
12	+8.0
13	
14	−8.7

IC104
(NJM2904M)

No.	Voltage [V]
1	
2	+2.5
3	
4	0
5	
6	+2.5
7	
8	+4.9

IC106
(NJM2068M)

No.	Voltage [V]
1	
2	+2.5
3	
4	0
5	
6	+2.5
7	
8	+4.9

IC302
(BA7042)

No.	Voltage [V]
1	+2.4
2	
3	+2.1
4	0
5	+3.5
6	+4.9
7	
8	+2.4

IC303
(TC7SU04F)

No.	Voltage [V]
1	0
2	+2.5
3	0
4	+2.6
5	+4.9

IC203
(NJM4558MD)

No.	Voltage [V]
1	
2	+2.5
3	
4	0
5	
6	+2.6
7	+2.7
8	+4.9

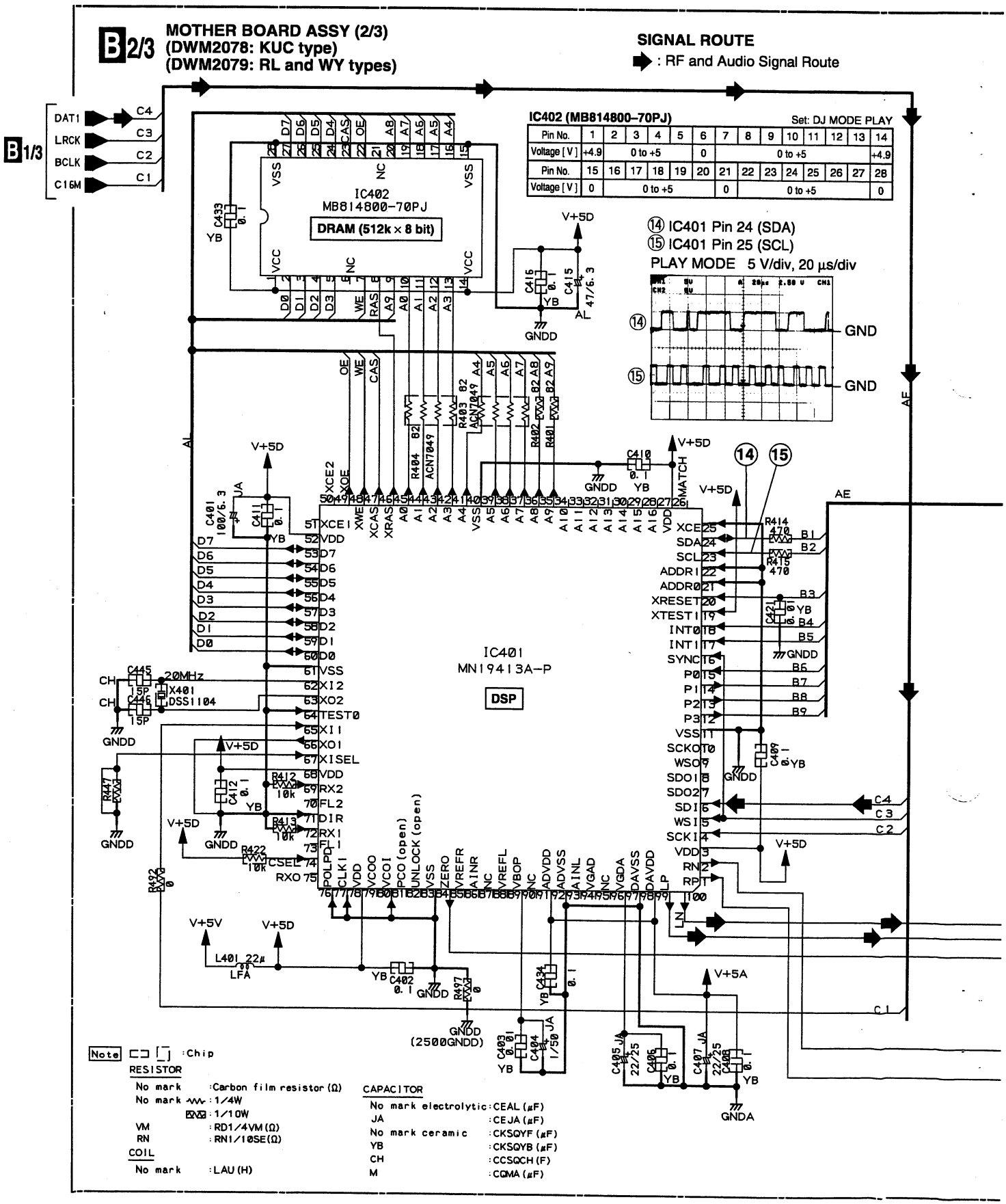
IC201
(BA6849FP)

No.	Voltage [V]	No.	Voltage [V]
1	0	16	0
2	+6.0	17	+0.5
3	0	18	
4	+6.0	19	0
5		20	
6	0	21	+2.6
7	+6.0	22	+2.5
8	0	23	+4.9
9		24	+2.4
10		25	+4.9
11		26	
12	+2.5	27	+7.5
13		28	
14		29	0
15	+0.5	30	

IC301
(CXD2500BQ)

No.	Voltage [V]	No.	Voltage [V]	No.	Voltage [V]	No.	Voltage [V]
1	+4.9	21	0	41	+2.3	61	0
2	0	22	+2.5	42	+4.9	62	+2.5
3	+4.9	23	+4.9	43	+2.5	63	0 to +5
4	+2.7	24	+1 to +4	44	0	64	0
5	0	25	+0.9	45	+4.9	65	
6	+4.9	26	+2.5	46	+4.4	66	0 to +5
7	0	27		47		67	
8	+4.9	28	+4.9	48	0	68	0
9		29	0	49		69	0 to +5
10		30		50	+1.2	70	+4.9
11		31	+2.5	51		71	0 to +5
12	0	32	0 to 5	52	0	72	
13		33	+5	53	+2.6	73	+4.9
14		34	0 to 5	54	+2.7	74	0 to +5
15		35		55	0	75	
16	+2.6	36	+2.5	56	+2.8	76	
17	+2.5	37	+2.4	57	+1.4	77	
18	0	38	+2.5	58	+2.1	78	
19	+2.6	39	0	59	0	79	
20		40	+4.9	60		80	

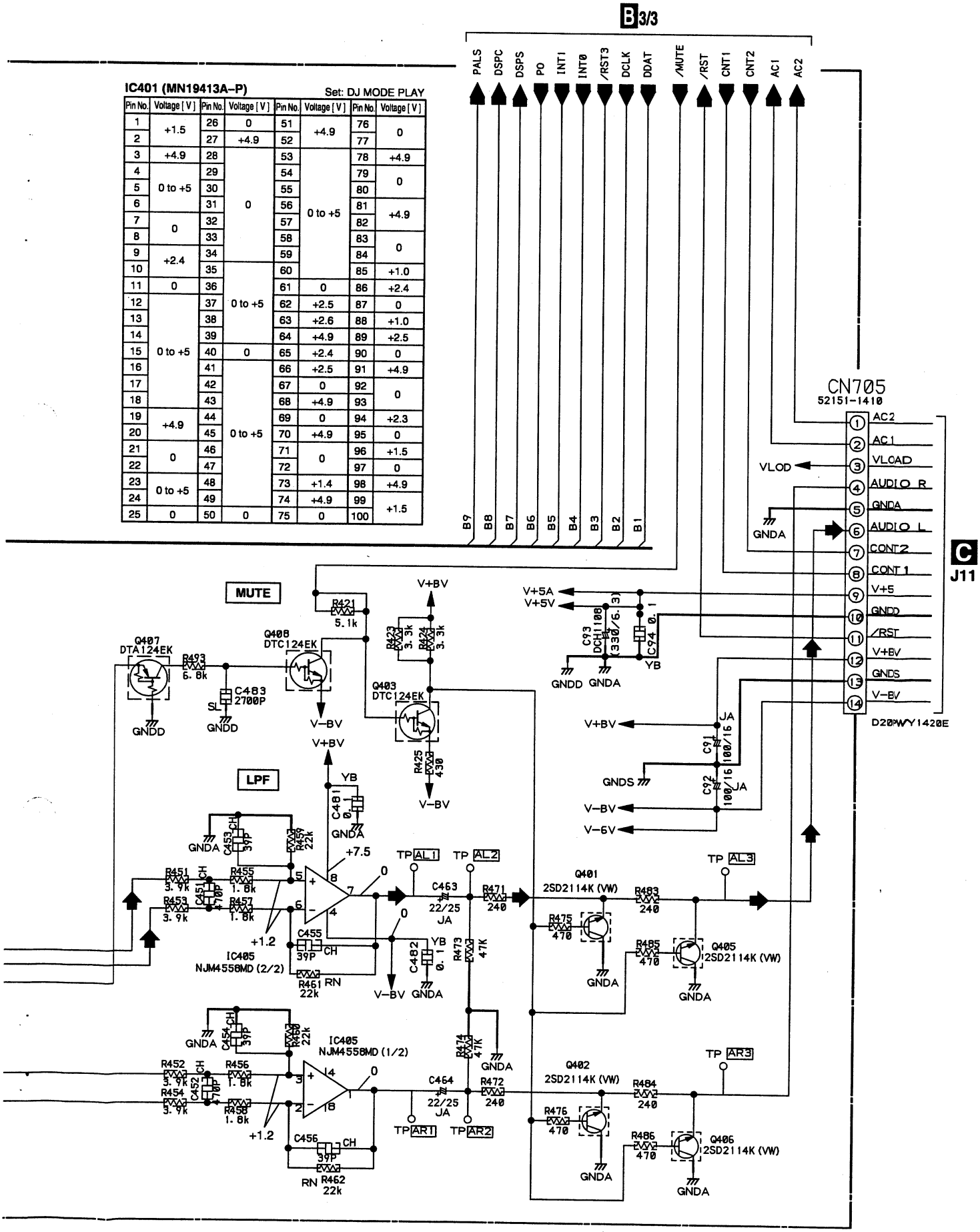
3.3 MOTHER BOARD ASSY (2/3)



Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Voltage [V]	+4.9	0 to +5				0	0 to +5							+4.9
Pin No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Voltage [V]	0	0 to +5				0	0 to +5							0

IC401 (MN19413A-P) Set: DJ MODE PLAY

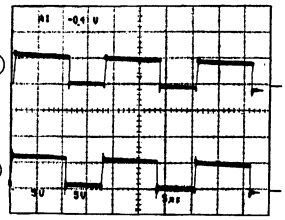
Pin No.	Voltage [V]	Pin No.	Voltage [V]	Pin No.	Voltage [V]	Pin No.	Voltage [V]
1	+1.5	26	0	51	+4.9	76	0
2		27	+4.9	52		77	
3	+4.9	28		53		78	+4.9
4		29		54		79	0
5	0 to +5	30		55		80	
6		31	0	56		81	+4.9
7	0	32		57	0 to +5	82	
8		33		58		83	0
9	+2.4	34		59		84	
10		35		60		85	+1.0
11	0	36		61	0	86	+2.4
12		37	0 to +5	62	+2.5	87	0
13		38		63	+2.6	88	+1.0
14		39		64	+4.9	89	+2.5
15	0 to +5	40	0	65	+2.4	90	0
16		41		66	+2.5	91	+4.9
17		42		67	0	92	0
18		43		68	+4.9	93	
19	+4.9	44		69	0	94	+2.3
20		45	0 to +5	70	+4.9	95	0
21	0	46		71	0	96	+1.5
22		47		72		97	0
23	0 to +5	48		73	+1.4	98	+4.9
24		49		74	+4.9	99	+1.5
25	0	50	0	75	0	100	



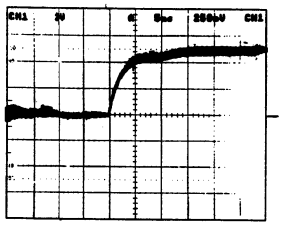
3.4 MOTHER BOARD ASSY (3/3)

Waveforms

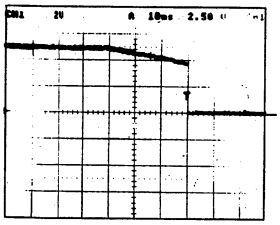
⑨ TP – STA +
⑩ TP – STA –
PLAY MODE
5 V/div, 5 µs/div



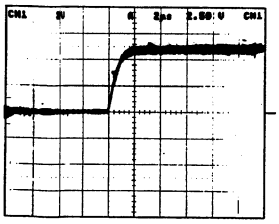
⑱ TP – RST : POWER ON
2 V/div, 5 ms/div



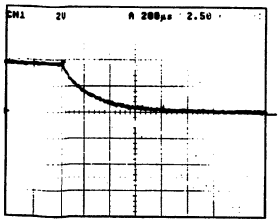
⑱ TP – RST : POWER OFF
2 V/div, 10 ms/div



⑲ TP – RST3 : POWER ON
2 V/div, 1 µs/div



⑲ TP – RST3 : POWER OFF
2 V/div, 200 ms/div



B 3/3 MOTHER BOARD ASSY (3/3)
(DWM2078: KUC type)
(DWM2079: RL and WY types)

To Pulse Motor Frame

CN202
STA–
STB+
STB–
STA+
VKN1235

STEPPING DRIVE

IC205 MPC17A85ZVM
STOP, PSB, CW, OEB, PSR, FLAO, FLAI, FLBO, FLBI, VC, LGND, VMA, AI, NFA, A2
RSTB, MODE, CK, MOB, C2L, C1L, C1H, C2H, VG, OSC, VMB, B2, NFB, B1, PGND

AUTO TRACKING BALANCE

IC901 NJM2904M (1/2)
IC902 NJM2904M (1/2)
IC902 NJM2904M (2/2)
IC901 NJM2904M (2/2)

IC901 (NJM2904M) Pin No.	Voltage [V]	IC902 (NJM2904M) Pin No.	Voltage [V]
1	+2.5	1	+2.2
2		2	+2.5
3		3	
4	0	4	0
5	+2.4	5	+2.5
6	+2.5	6	
7	+2.2	7	+2.6
8	+4.9	8	+7.4

Set: DJ MODE PLAY

Note
Chip
RESISTOR
No mark: Carbon film resistor (Ω)
No mark: 1/4W
1/10W
COIL
No mark : LAU (H)
CAPACITOR
AL : CEAL (µF)
JA : CEJA (µF)
No mark ceramic : CKSQYF (µF)
YB : CKSQYB (µF)
CH : CCSQCH (F)

INT0, DCLK, /RST3, /RST, DDAT, DSPC, INT1, PO, DSPS, CNT1, CNT2, /MUTE, PALS, AC1, AC2

B 2/3

IC206 (MPC17A85ZVM) Set: DJ MODE PLAY

Pin No.	1	2	3	4	5	6	7	8
Voltage [V]	0	+4.6	+4.9	0	+1.5	+0.2	+0.4	+0.5
Pin No.	9	10	11	12	13	14	15	16
Voltage [V]	+0.4	+4.9	0	+4.8	+1.5	+0.1	+0.5	0
Pin No.	17	18	19	20	21	22	23	24
Voltage [V]	+3.2	+0.2	+0.5	+4.8	+1.4	+19.3	+11.9	+7.2
Pin No.	25	26	27	28	29	30		
Voltage [V]	+2.5		+4.9	0 to +5	+4.9			

IC701 (PD4977B) Set: DJ MODE PLAY

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage [V]	−30.5 to +5							+4.9	+4.8	0				0 to +5		+4.9	0 to +5	0		
Pin No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage [V]	+4.9	0 to +5	0	+2.3	+2.6	+2.5		+4.9			0			+2.4	+2.2	0	+2.5	0	+2.5	+4.9
Pin No.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Voltage [V]	+4.9		0	+3.0	0		+4.9	0	+4.9		0 to +5	0		+4.9		0				
Pin No.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Voltage [V]	+4.9	0	−30.5 to +5								−30.5	−30.5 to +5				−30.5	−30.5 to +5			

SIGNAL ROUTE
(L) : LOADING DRIVE

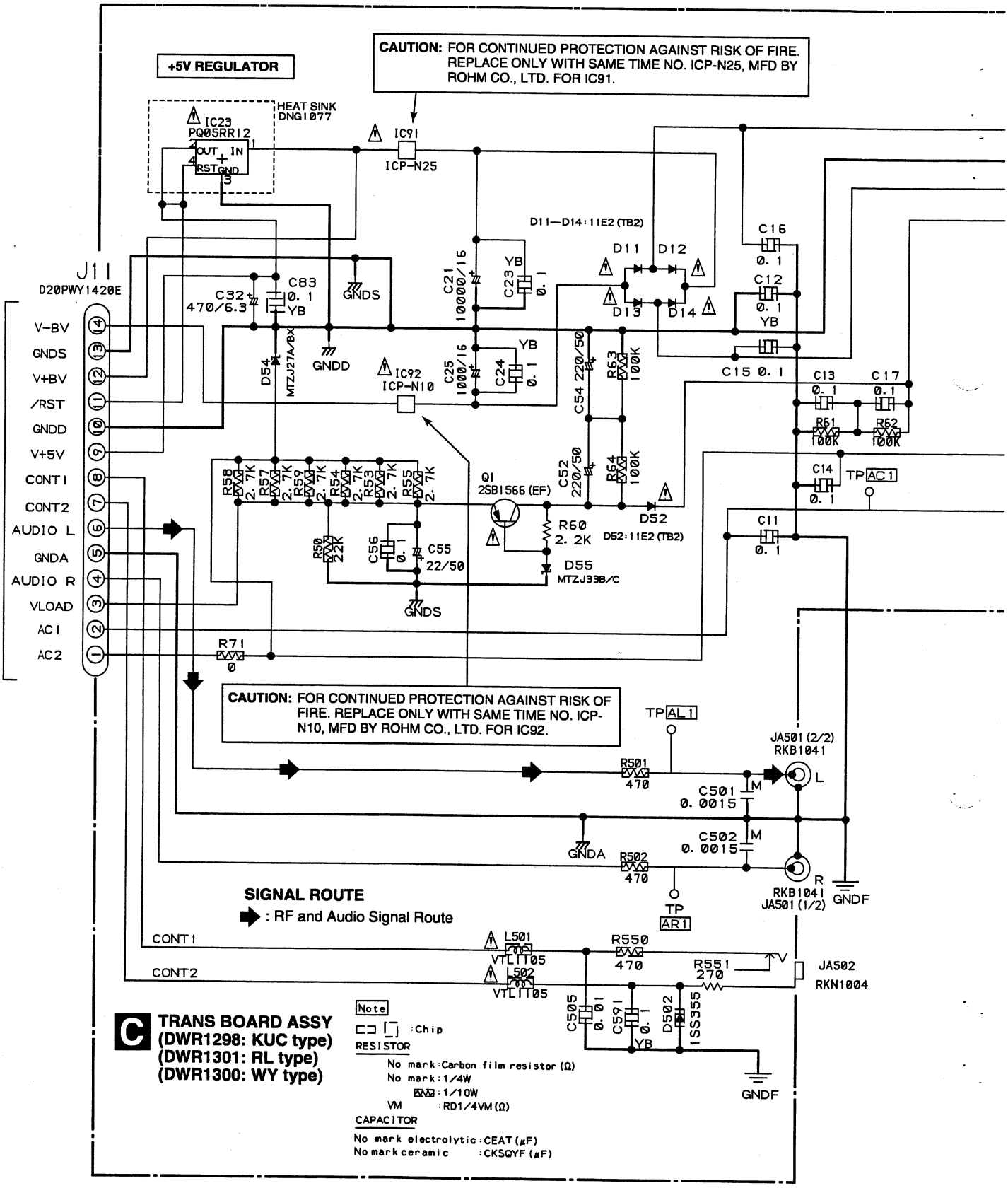
IC701
PD4977B
SYSTEM CONTROL

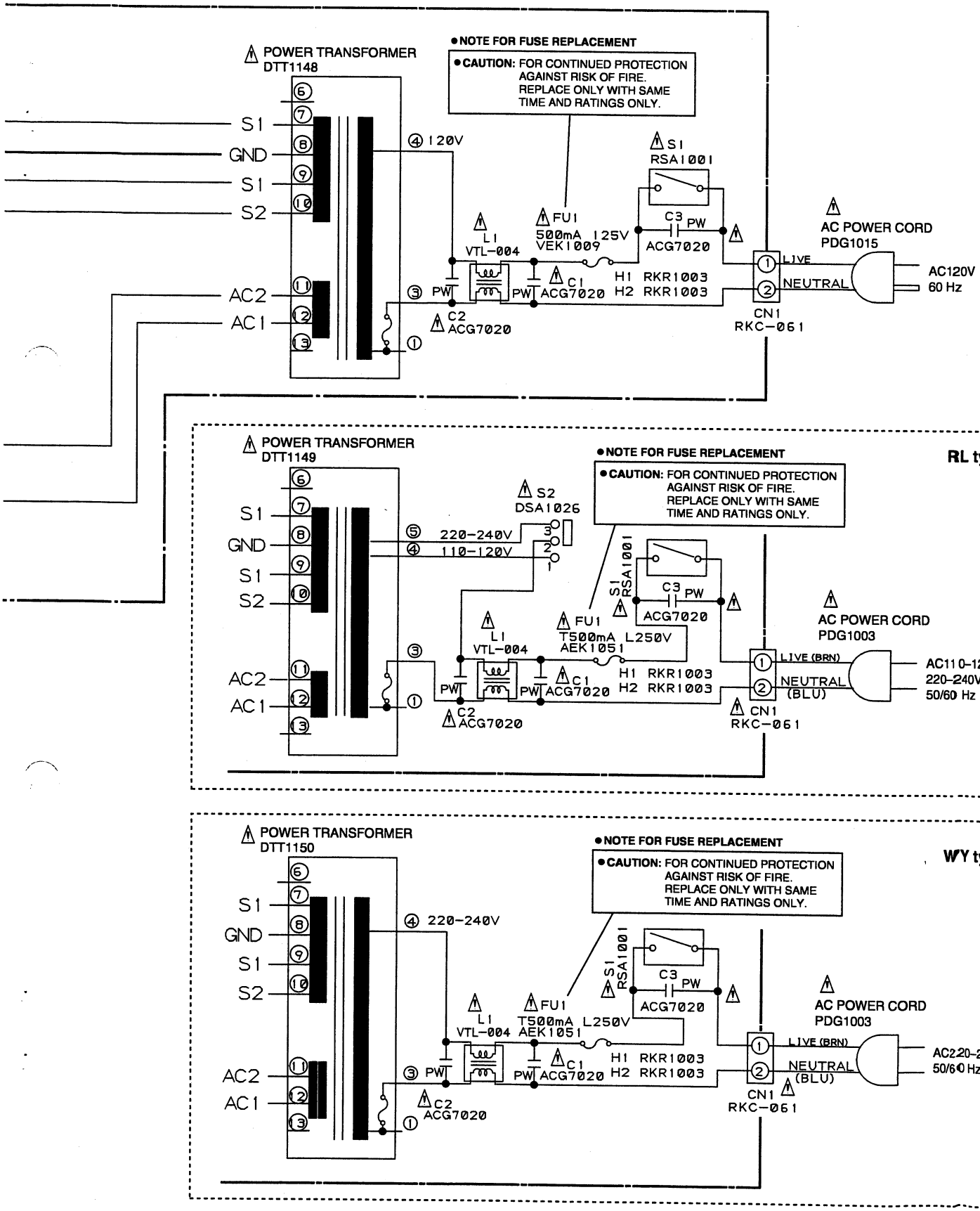
EXCEPT KUC
KUC ONLY

CN701 HLEM36R-1
CN702
CN802 12B-PH-K-R
D CN601
FFC DDD1131

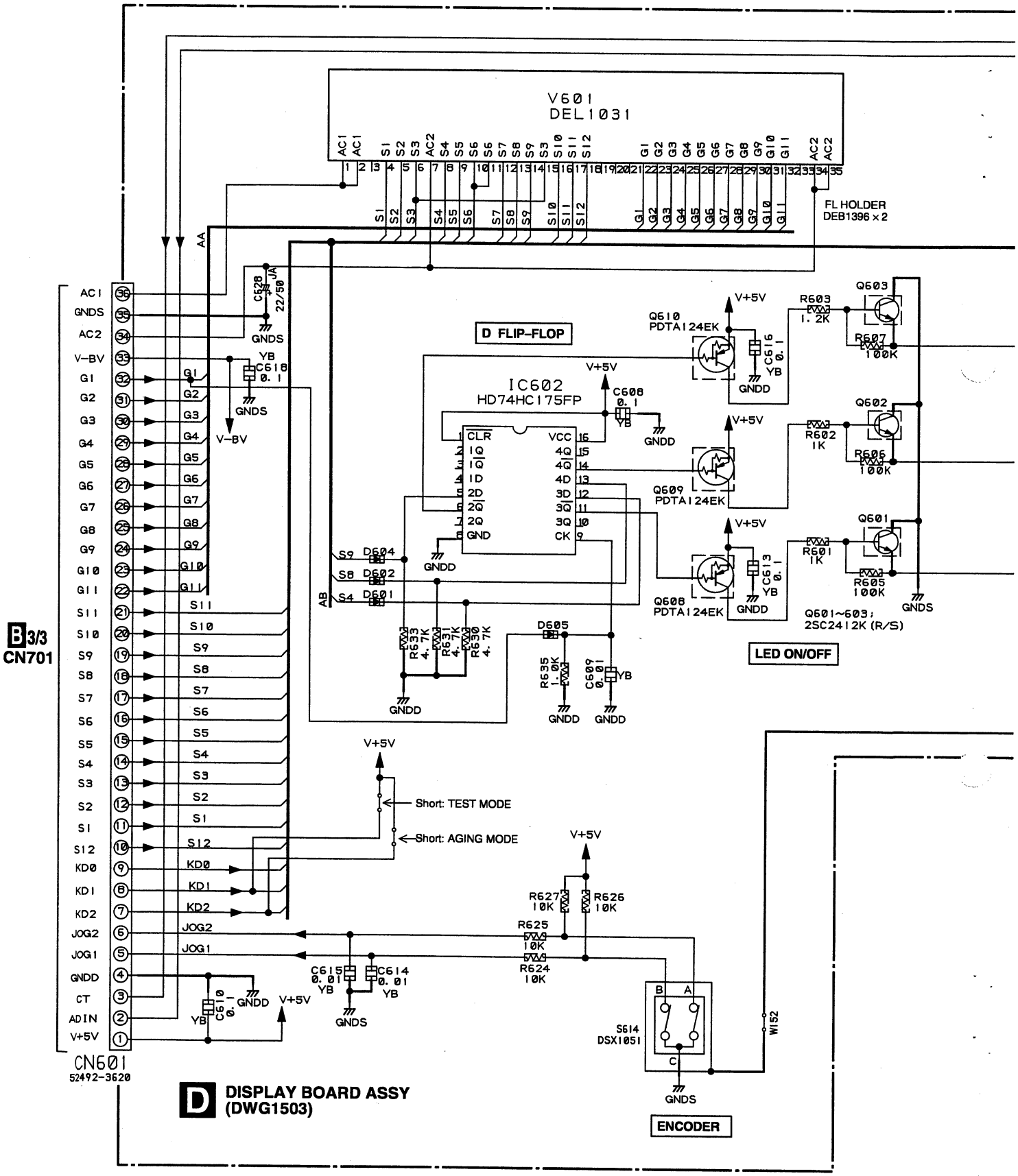
B 1/3
B 3/3

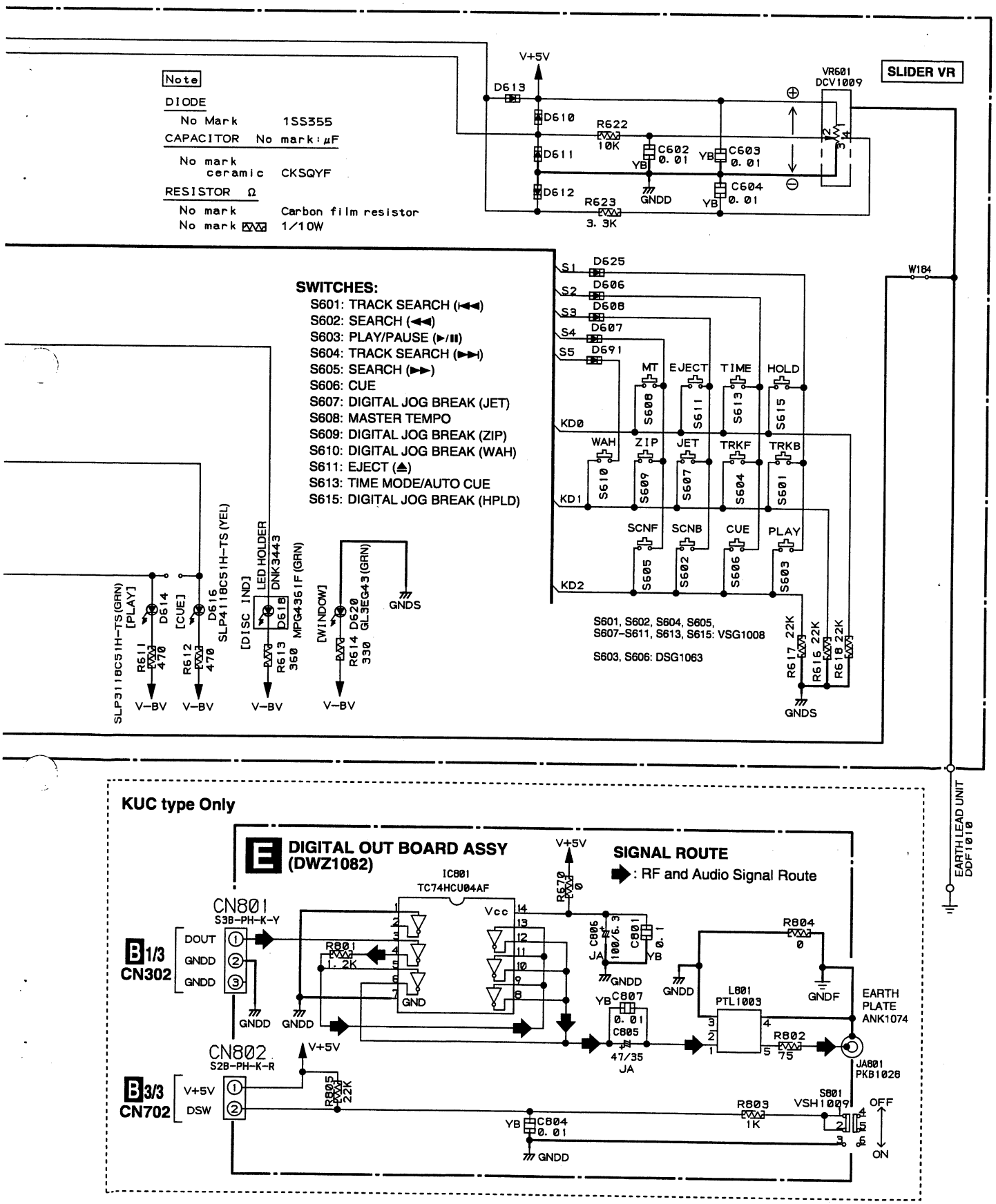
3.5 TRANS BOARD ASSY




POWER TRANSFORMER
DTT1148
NOTE FOR FUSE REPLACEMENT
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TIME AND RATINGS ONLY.
S1
GND
S1
S2
AC2
AC1
120V
S1
RSA1001
FU1
500mA 125V
VEK1009
C3 PW
ACG7020
L1
VTL-004
C1
ACG7020
H1 RKR1003
H2 RKR1003
PW
C2
ACG7020
AC POWER CORD
PDG1015
LIVE
NEUTRAL
AC120V
60 Hz
CN1
RKC-061
POWER TRANSFORMER
DTT1149
RL type
NOTE FOR FUSE REPLACEMENT
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TIME AND RATINGS ONLY.
S2
DSA1026
220-240V
110-120V
S1
RSA1001
C3 PW
ACG7020
FU1
T500mA L250V
AEK1051
L1
VTL-004
C1
ACG7020
H1 RKR1003
H2 RKR1003
C2
ACG7020
AC POWER CORD
PDG1003
LIVE (BRN)
NEUTRAL (BLU)
AC110-120V/
220-240V
50/60 Hz
CN1
RKC-061
POWER TRANSFORMER
DTT1150
W/Y type
NOTE FOR FUSE REPLACEMENT
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TIME AND RATINGS ONLY.
220-240V
S1
RSA1001
C3 PW
ACG7020
FU1
T500mA L250V
AEK1051
L1
VTL-004
C1
ACG7020
H1 RKR1003
H2 RKR1003
C2
ACG7020
AC POWER CORD
PDG1003
LIVE (BRN)
NEUTRAL (BLU)
AC220-240V
50/60 Hz
CN1
RKC-061

3.6 DISPLAY BOARD and DIGITAL OUT BOARD ASSEMBLIES

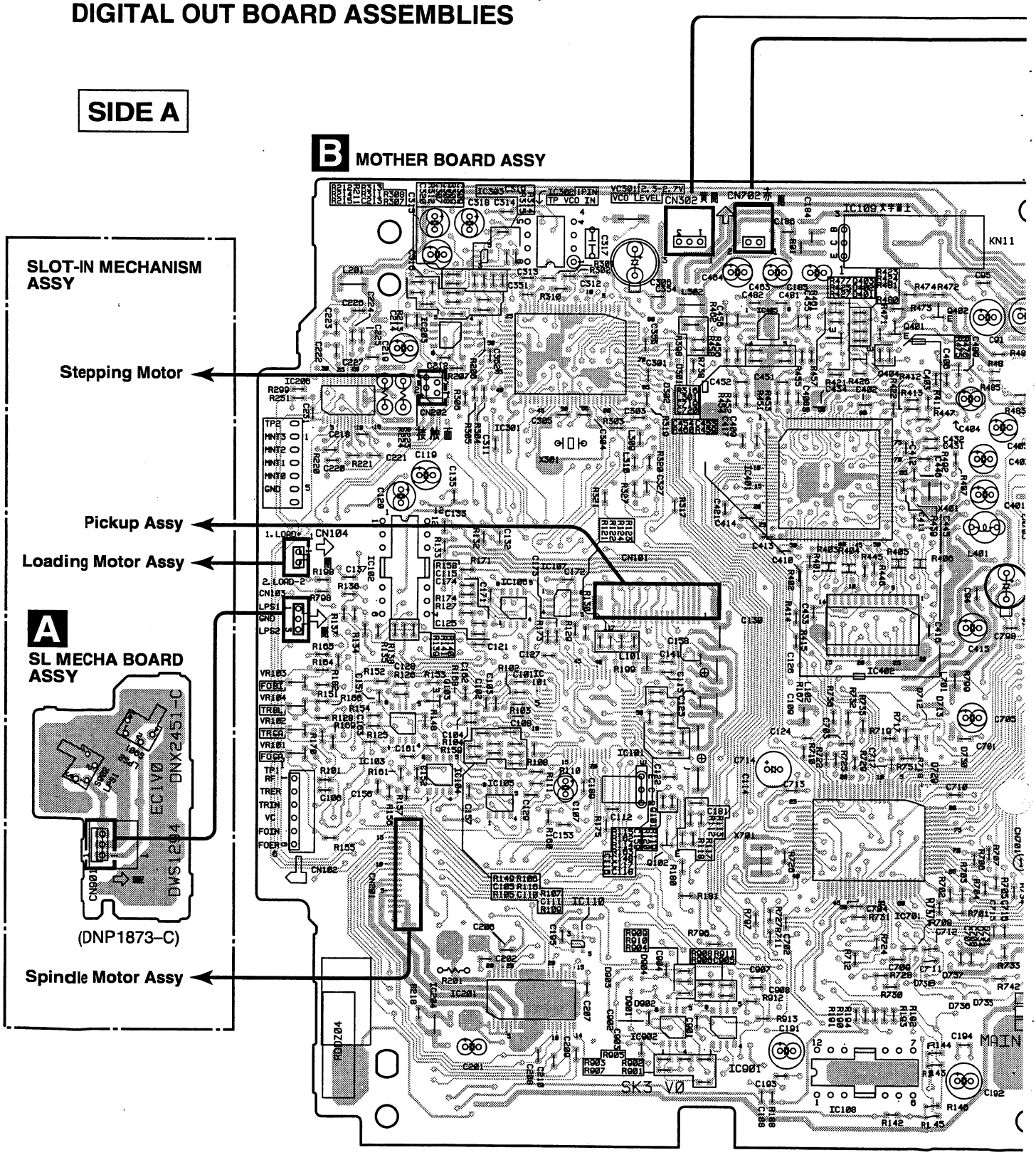



Note
DIODE
No Mark 1SS355
CAPACITOR No mark:μF
No mark ceramic CKSQYF
RESISTOR Ω
No mark Carbon film resistor
No mark 1/10W
SLIDER VR
V+5V
D613
D610
D611
D612
R622 10K
R623 3.3K
C602 0.01
C603 0.01
C604 0.01
GNDD
YB
VR601 DCV1009
SWITCHES:
S601: TRACK SEARCH (⏮)
S602: SEARCH (◀◀)
S603: PLAY/PAUSE (▶/⏸)
S604: TRACK SEARCH (⏭)
S605: SEARCH (▶▶)
S606: CUE
S607: DIGITAL JOG BREAK (JET)
S608: MASTER TEMPO
S609: DIGITAL JOG BREAK (ZIP)
S610: DIGITAL JOG BREAK (WAH)
S611: EJECT (⏏)
S613: TIME MODE/AUTO CUE
S615: DIGITAL JOG BREAK (HPLD)
S1 D625
S2 D606
S3 D608
S4 D607
S5 D691
KD0
KD1
KD2
MT EJECT TIME HOLD
WAH ZIP JET TRKF TRKB
SCNF SCNB CUE PLAY
S608 S611 S613 S615
S610 S609 S607 S604 S601
S605 S602 S606 S603
S601, S602, S604, S605, S607–S611, S613, S615: VSG1008
S603, S606: DSG1063
R617 22K
R616 22K
R618 22K
GNDS
W184
SLP3118C51H-TS(GRN) [PLAY]
D614
R611 470
V–BV
[CUE]
D615 SLP4118C51H-TS(YEL)
R612 470
[DISC IND] LED HOLDER DNK3443
D618
R613 360 MPG4361F(GRN)
[WINDOW]
R614 330 D620 GL3EG43(GRN)
GNDS
EARTH LEAD UNIT DDF1010

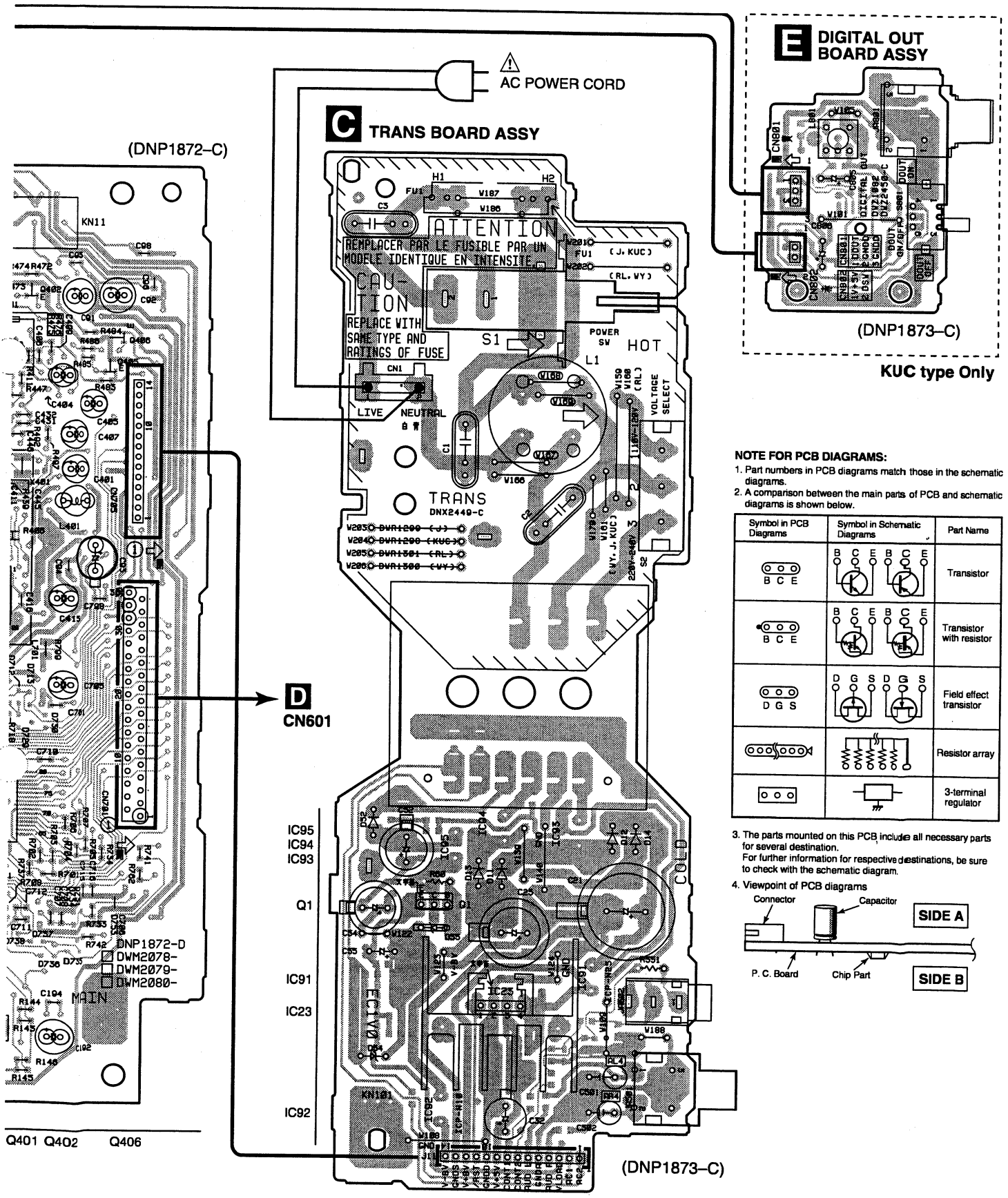
KUC type Only
E DIGITAL OUT BOARD ASSY (DWZ1082)
SIGNAL ROUTE
: RF and Audio Signal Route
IC801 TC74HCU04AF
V+5V
R570 0
CN801 S3B-PH-K-Y
B1/3 CN302
DOUT
GNDD
R801 1.2K
GND
Vcc
C806 100/6.3 JA
C801 0.1 YB
R804 0
L801 PTL1003
GNDF
EARTH PLATE ANK1074
C807 0.01
C805 47/35 JA
R802 75
JA801 PKB1028
CN802 S2B-PH-K-R
B3/3 CN702
V+5V
DSW
R805 22K
C804 0.01
R803 1K
S801 VSH1009
OFF
ON

4. PCB CONNECTION DIAGRAM

4.1 SL MECHA BOARD, MOTHER BOARD, TRANS BOARD and DIGITAL OUT BOARD ASSEMBLIES



SIDE A



NOTE FOR PCB DIAGRAMS:

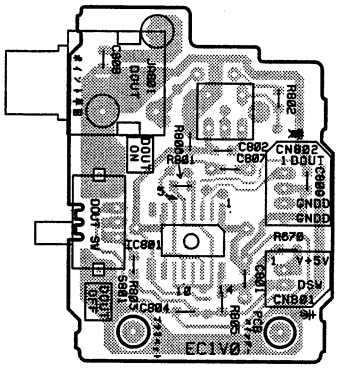
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destination. For further information for respective destinations, be sure to check with the schematic diagram.
4. Viewpoint of PCB diagrams

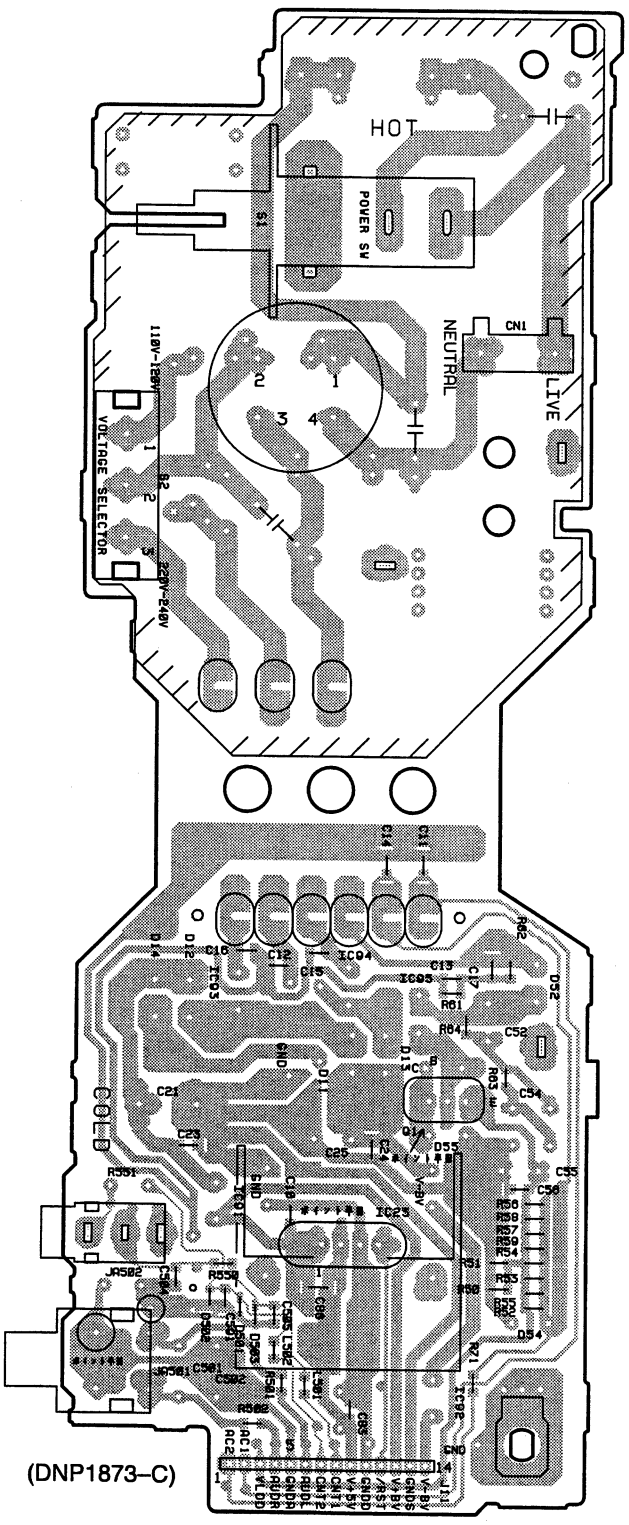
SIDE B

E DIGITAL OUT BOARD ASSY



(DNP1873–C)

C TRANS BOARD ASSY

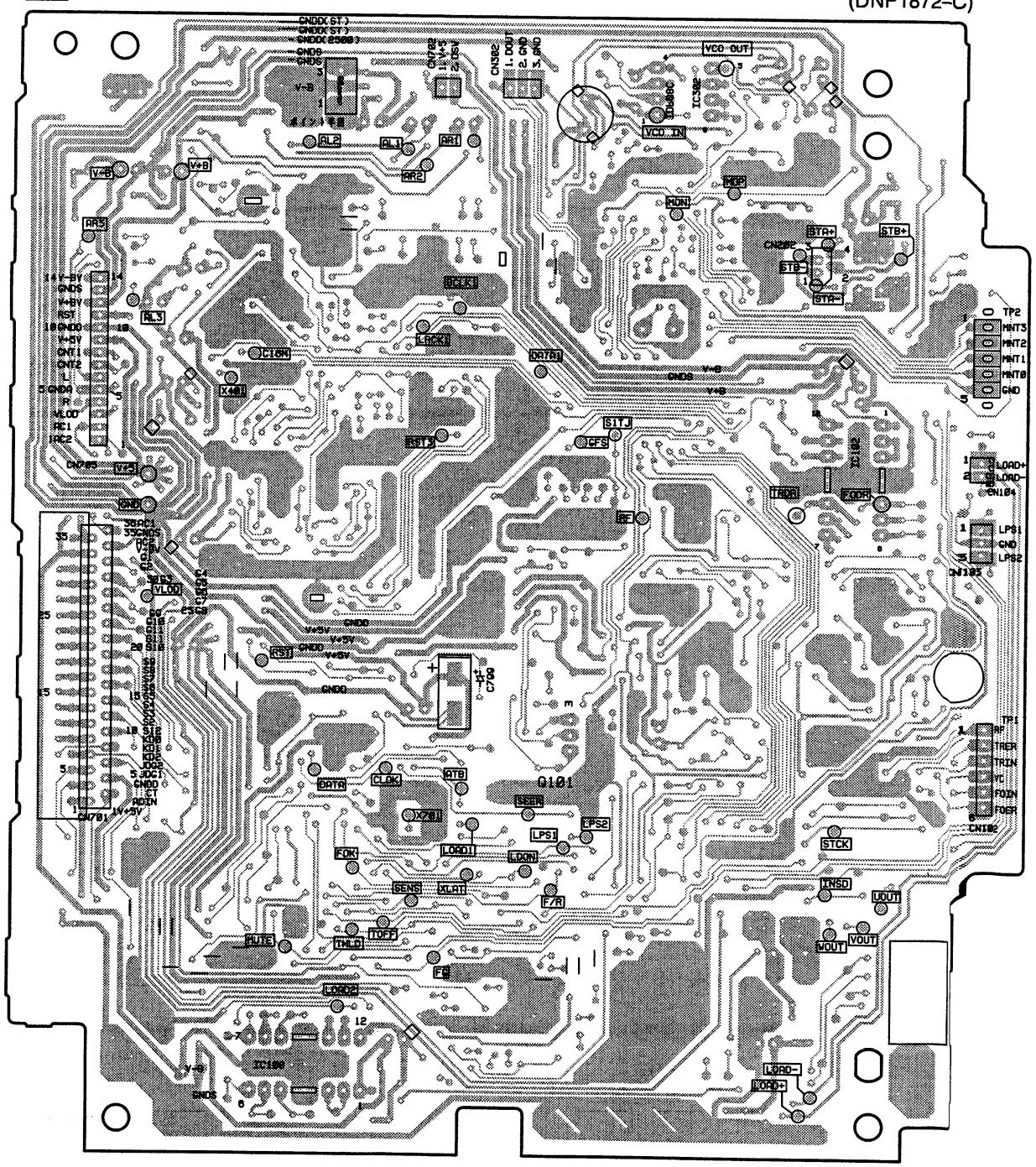


(DNP1873–C)

SIDE B

B MOTHER BOARD ASSY

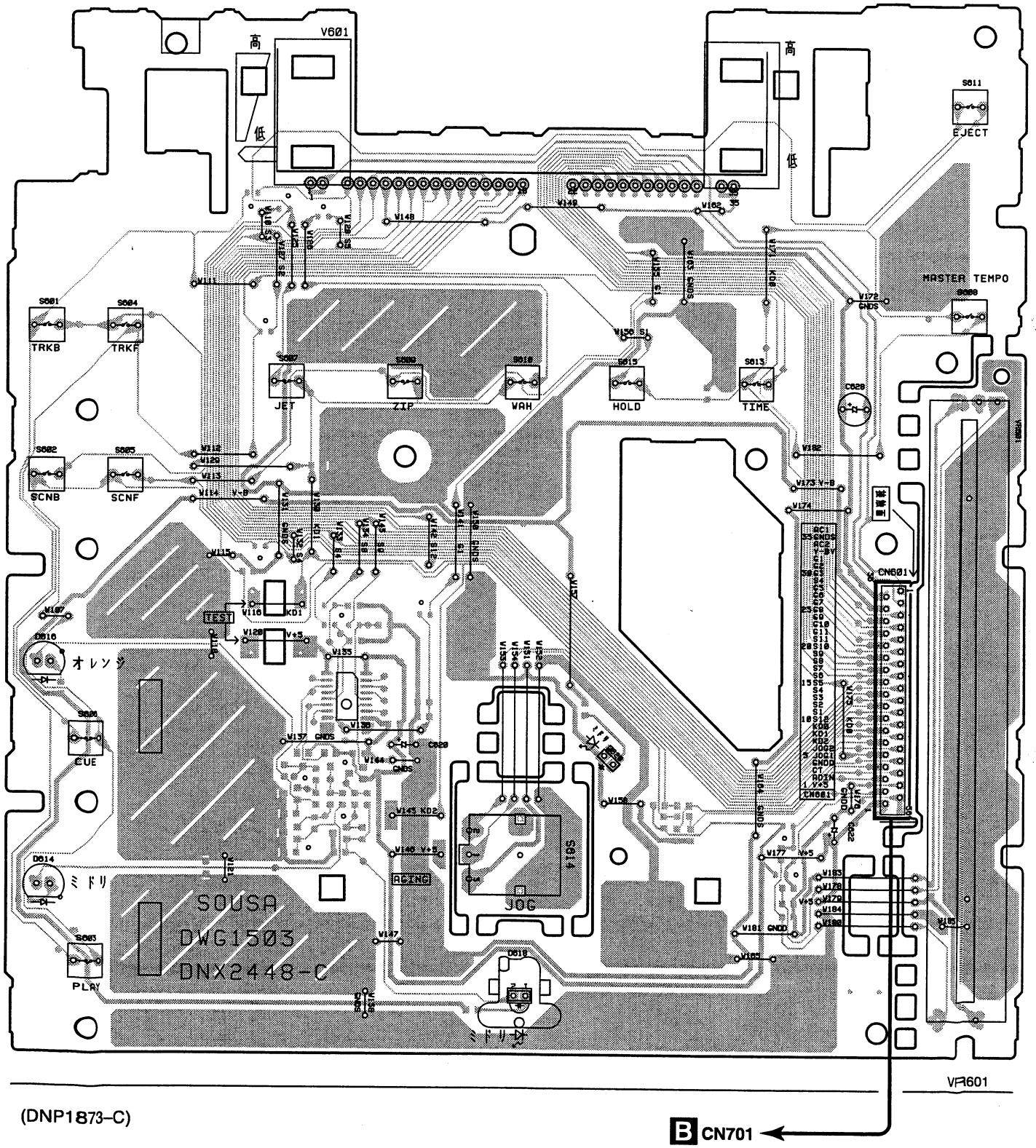
(DNP1872-C)



4.2 DISPLAY BOARD ASSEMBLY

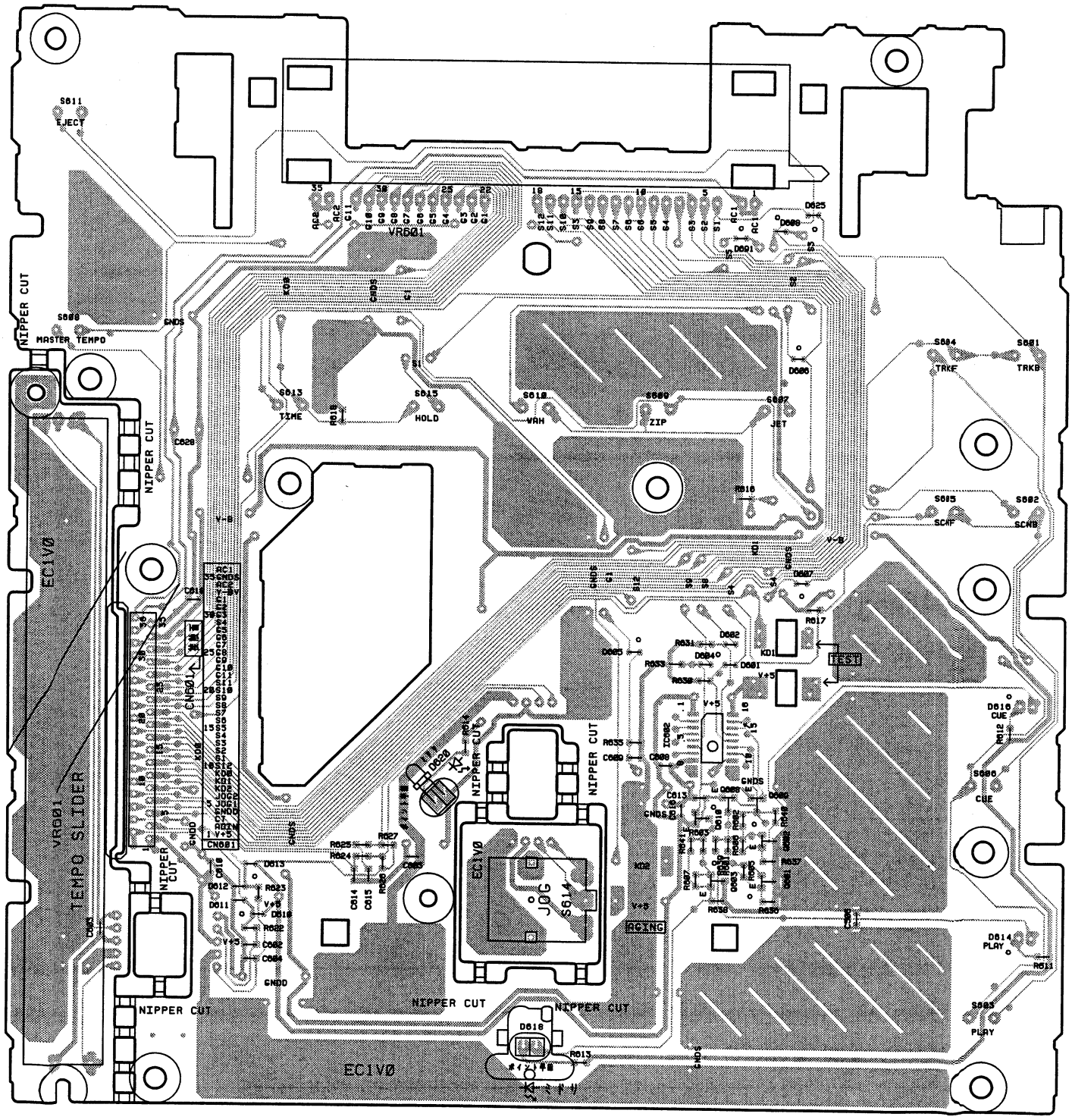
D DISPLAY BOARD ASSY

SIDE A



D DISPLAY BOARD ASSY

SIDE B



(DNP1873–C)

IC602
Q608 Q609
Q610 Q602
Q603 Q601

5. PCB PARTS LIST

NOTES :
- *Parts marked by " NSP " are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 *When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).*

560 Ω → 56 × 10¹ → 561 ..... *RD1/4PU* [5][6][1] *J*

47k Ω → 47 × 10³ → 473 ..... *RD1/4PU* [4][7][3] *J*

0.5 Ω → R50 ..... *RN2H* [R][5][0] *K*

1 Ω → 1R0 ..... *RS1P* [1][R][0] *K*

Ex. 2 *When there are 3 effective digits (such as in high precision metal film resistors).*

5.62k Ω → 562 × 10¹ → 5621 ..... *RN1/4PC* [5][6][2][1] *F*

■ LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.			Remarks
		KUC type	RL type	WY type	
	MOTHER BOARD ASSY	DWM2078	DWM2079	DWM2079	
NSP	SUB BOARD ASSY	DWX1892	DWX1891	DWX1898	
	├ DISPLAY BOARD ASSY	DWG1503	DWG1503	DWG1503	
	├ TRANS BOARD ASSY	DWR1298	DWR1301	DWR1300	
NSP	├ SL MECHA BOARD ASSY	DWS1294	DWS1294	DWS1294	
NSP	└ DIGITAL OUT BOARD ASSY	DWZ1082	Not used	Not used	

■ CONTRAST OF PCB ASSEMBLIES

B MOTHER BOARD ASSY

DWM2078 and DWM2079 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		DWM2078	DWM2079	
	C709	CKSQYB103K50	Not used	
	C719, C720	CKSQYB104K25	Not used	
	R319	RS1/10S561J	Not used	
	R708	Not used	RS1/10S223J	
	R738	RS1/10S102J	Not used	
	CN302	S3B-PH-K-Y	Not used	
	CN702	S2B-PH-K-Y	Not used	

C TRANS BOARD ASSY

DWR1298, DWR1301 and DWR1300 are constructed the same except for the following:

Mark	Symbol and Description	Part No.			Remarks
		DWR1298	DWR1301	DWR1300	
	S2 Voltage Selector	Not used	DSA1026	Not used	

■ PARTS LIST FOR CDJ-100S/KUC

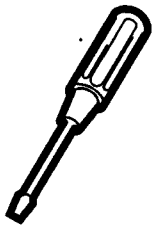
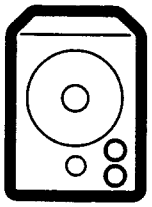
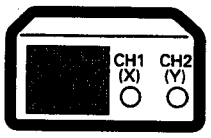
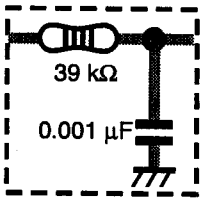
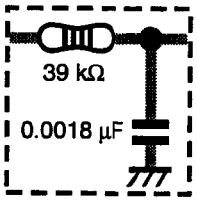
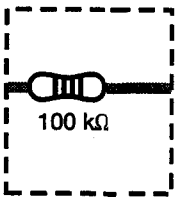
Mark	No.	Description	Part No.
	B	**MOTHER BOARD ASSY**	
		SEMICONDUCTORS	
	IC201		BA6849FP
	IC302		BA7042
	IC101		CXA1782CQ
	IC301		CXD2500BQ
	IC102, IC108		LA6520
	IC402		MB814800-70PJ
	IC401		MN19413A-P
	IC206		MPC17A85ZVM
	IC103, IC106		NJM2068M
	IC104, IC901, IC902		NJM2904M
	IC203, IC405		NJM4558MD
	IC701		PD4977B
	IC107		TC4W53F
	IC105		TC4W66F
	IC110		TC7S00F
	IC303		TC7SU04F
	Q102		2SA1163
	Q101		2SA1515
	Q103, Q401, Q402, Q405, Q406		2SD2114K
	Q403		DTC124EK
	D712, D713, D729, D730		1SS355
	D735–D738, D901–D904		1SS355
		COILS AND FILTERS	
	L201 (39 µH)		DTL1070
	L401		LFA220J
⚠	L309, L310		VTL1105
		CAPACITORS	
	C304, C305, C445, C446		CCSQCH150J50
	C309		CCSQCH221J50
	C148		CCSQCH240J50
	C115		CCSQCH270J50
	C453–C456		CCSQCH390J50
	C451, C452		CCSQCH471J50
	C121		CCSQCH680J50
	C705, C714		CEAL101M6R3
	C191, C192		CEAL330M25
	C315, C415		CEAL470M6R3
	C107		CEAL4R7M16
	C91, C92		CEJA101M16
	C219, C318, C401		CEJA101M6R3
	C404		CEJA1R0M50
	C405, C407, C463, C464		CEJA220M25
	C119, C120		CEJA330M25
	C316		CEJA3R3M50
	C317		CFTLA474J50
	C110, C116, C320		CKSQYB102K50
	C104, C112, C118, C132, C133		CKSQYB103K50
	C141, C188, C213, C220–C224		CKSQYB103K50
	C231, C301, C307, C403, C421		CKSQYB103K50
	C702, C709, C905		CKSQYB103K50
	C102, C103, C105, C108, C113		CKSQYB104K25
	C128, C135, C137, C151, C152		CKSQYB104K25
	C157–C159, C161, C162		CKSQYB104K25
	C171, C172, C181, C189		CKSQYB104K25
	C193–C195, C202, C206–C210		CKSQYB104K25
	C212, C218, C314, C319		CKSQYB104K25
	C351–C354, C402, C406		CKSQYB104K25
	C408–C412, C416, C433, C434		CKSQYB104K25
	C481, C482, C701, C704, C706		CKSQYB104K25
	C713, C717, C719, C720		CKSQYB104K25
	C901, C902, C94		CKSQYB104K25
	C907		CKSQYB105K10
	C711, C712		CKSQYB122K50
	C313		CKSQYB152K50
	C106, C173, C311		CKSQYB222K50
	C163, C903, C904		CKSQYB224K16
	C225		CKSQYB332K50
	C122		CKSQYB333K50
	C111		CKSQYB473K25
	C101, C312, C703		CKSQYB473K50
	C129, C174, C308		CKSQYB474K16
	C125		CKSQYB562K50
	C117, C153		CKSQYB682K50
	C127		CKSQYB683K25
	C201 (100 µF/16V)		DCH1□105
	C93 (330 µF/ 16V)		DCH1□108
	C306 (470 µF/ 10V)		DCH1□109
	C109, C124, C126, C130 (100 µF/6.3V)		DCH1□110
	C114 (47 µF/6.3V)		DCH1□111
	VC301 (40 pF)		VCM1□010
		RESISTORS	
	R403, R404 (82 Ω)		ACN7□049
	R223, R224 (1.6 Ω, 1/4W)		DCN□109
	R201 (1.8 Ω, 1/4W)		DCN□120
	R461, R462		RN1/□0SE2202D
	R206, R207		RS1/□0S1002F
	R142–R144, R146, R191–R194		RS1/□0S1503F
	R108		RS1/□0S2403F
	VR101–VR104 (22 kΩ)		VCP□174
	Other Resistors		RS1/□0S□□□J
		OTHERS	
	CN201	CONNECTOR (15P)	52207-1590
	CN101	CONNECTOR (17P)	52207-1790
	CN104	CONNECTOR POST (2P)	B2B-PH-K-S
	CN103	CONNECTOR POST (3P)	B3B-PH-K-S
	CN102	TOP POST (6P)	B6P-SHF-1AA
		P.C. BOARD	DNP1□372
	X401	(20 MHz)	DSS1□104
	X701	(4.19 MHz)	DSS1□105
	CN701	FFC CONNECTOR 36P	HLEM□36R-1
	X301	(16.9344 MHz)	PSS1□008
	CN202	FFC CONNECTOR 4P	VKN1□235

Mark	No.	Description	Part No.
D	**DISPLAY BOARD ASSY**		
	SEMICONDUCTORS		
	IC602		HD74HC175FP
	Q601–Q603		2SC2412K
	Q608–Q610		PDTA124EK
	D601, D602, D604–D608		1SS355
	D610–D613, D625, D691		1SS355
	D620		GL3EG43
	D618		MPG4361F
	D614		SLP3118C51H
	D616		SLP4118C51H
	SWITCHES AND RELAYS		
	S603, S606		DSG1063
	S614		DSX1051
	S601, S602, S604, S605		VSG1008
	S607–S611, S613, S615		VSG1008
	CAPACITORS		
	C628		CEJA220M50
	C602–C604, C609, C614, C615		CKSQYB103K50
	C608, C610, C613, C616, C618		CKSQYB104K25
	RESISTORS		
	VR601 (10 kΩ–B)		DCV1009
	Other Resistors		RS1/10S□□□J
	OTHERS		
	CN601	FFC CONNECTOR 36P	52492-3620
		FL HOLDER	DEB1396
	V601	FL INDICATOR TUBE	DEL1031
C	**TRANS BOARD ASSY**		
	SEMICONDUCTORS		
⚠	IC92		ICP-N10
⚠	IC91		ICP-N25
⚠	IC23		PQ05RR12
⚠	Q1		2SB1566
⚠	D11–D14, D52		11E2 (TB2)
	D502		1SS355
	D54		MTZJ27A
	D55		MTZJ33B
	COILS AND FILTERS		
⚠	L1		VTL-004
⚠	L501, L502		VTL1105
	SWITCHES AND RELAYS		
⚠	S1		RSA1001
	CAPACITORS		
⚠	C1–C3 (10000 pF/AC250V)		ACG7020
	C25		CEAT102M16
	C21		CEAT103M16
	C55		CEAT220M50
	C52, C54		CEAT221M50
	C32		CEAT471M6R3
	C12, C23, C24, C591, C83		CKSQYB104K25
	C505		CKSQYF103Z50
	C11, C13–C17, C56		CKSQYF104Z50
	C501, C502		CQMA152J50
	RESISTORS		
	R60		RD1/4VM222J
	R551		RD1/4VM271J
	Other Resistors		RS1/10S□□□J
	OTHERS		
	J11	14P PARALLEL WIRE	D20PWY1420E
		HEAT SINK	DNG1077
	JA501	PIN JACK 2P	RKB1041
⚠		TERMINAL 2P	RKC-061
	JA502	JACK (REMOTE)	RKN1004
	H1, H2	FUSE HOLDER	RKR1003
		PCB BINDER	VEF1040
A	**SL MECHA BOARD ASSY**		
	SWITCHES AND RELAYS		
	S901, S902		DSG1017
	OTHERS		
	CN901	KR CONNECTOR 3P	S3B-PH-K-S
E	**DIGITAL OUT BOARD ASSY**		
	SEMICONDUCTORS		
	IC801		TC74HC04AF
	COILS AND FILTERS		
	L801		PTL1003
	SWITCHES AND RELAYS		
	S801		VSH1009
	CAPACITORS		
	C806		CEJA101M6R3
	C805		CEJA470M35
	C804, C807		CKSQYB103K50
	C801, C808, C809		CKSQYB104K25
	RESISTORS		
	All Resistors		RS1/10S□□□J
	OTHERS		
	JA801	PIN JACK 1P	PKB1028

6. ADJUSTMENT

6.1 PREPARATIONS

6.1.1 Jigs and Measuring Instruments

8-cm DISC (With at least about 20 minutes recording)	CD TEST DISC	⊖ Precise screwdriver	 ⊖ screwdriver (small)	⊕ screwdriver (medium)
⊕ screwdriver (large)	 Low-frequency oscillator	 Dual-trace oscilloscope (10 : 1 probe)	 Low pass filter ① (39 kΩ + 0.001 µF)	 Low pass filter ② (39 kΩ + 0.0018 µF)
				 Resistor (100 kΩ)

6.1.2 Necessary Adjustment Points

When	Adjustment points
Exchange MOTHER BOARD ASSY	1.2.3.4.5.6. → Page 36~38
Exchange SERVO MECHANISM ASSY	2.3.4.5.6. → Page 36~38

6.2 ADJUSTMENT

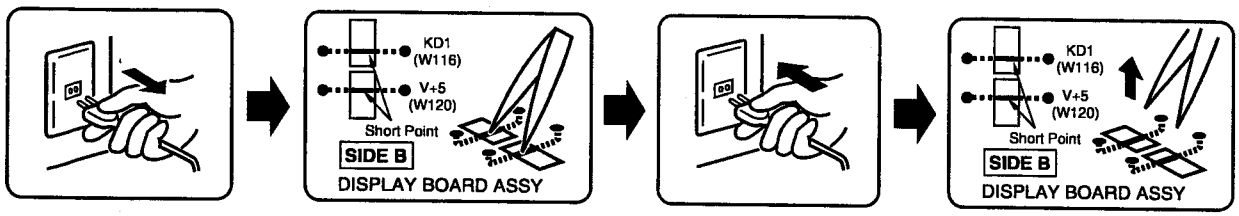
6.2.1 How to Start/Cancel Test Mode

[Precautions for Test Mode]

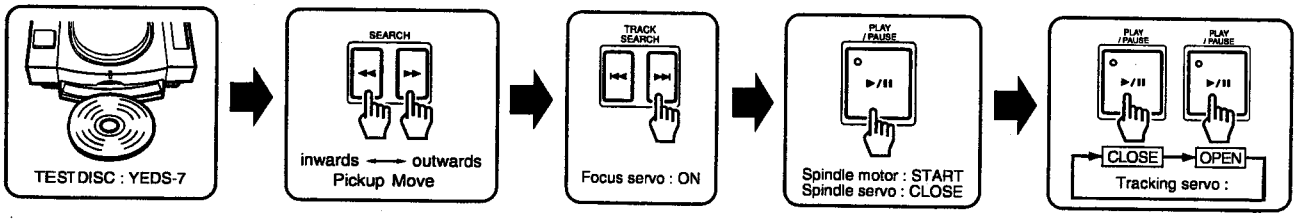
(1) If a soiled or damaged disc is played back and a GFS error is generated, the system may not perform a STOP operation and may run out of control, although muting ON/OFF will be performed. If the system does run out of control, press the CUE key to switch the power OFF.

(2) Do NOT press any key while an OPEN/CLAMP, SPINDLE KICK, or FOCUS SEARCH operation is in progress. Be sure to wait until the operation is completed before calling the next operation.

TEST MODE : ON

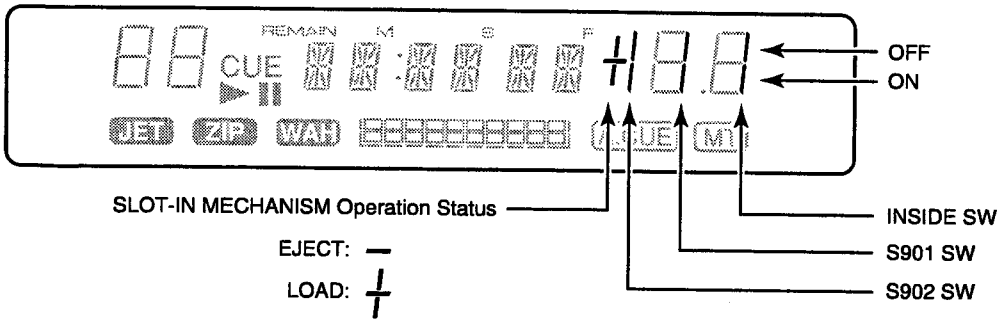


TEST MODE : PLAY

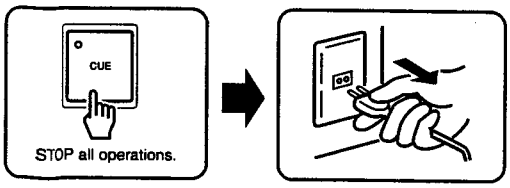


TEST MODE : DISPLAY

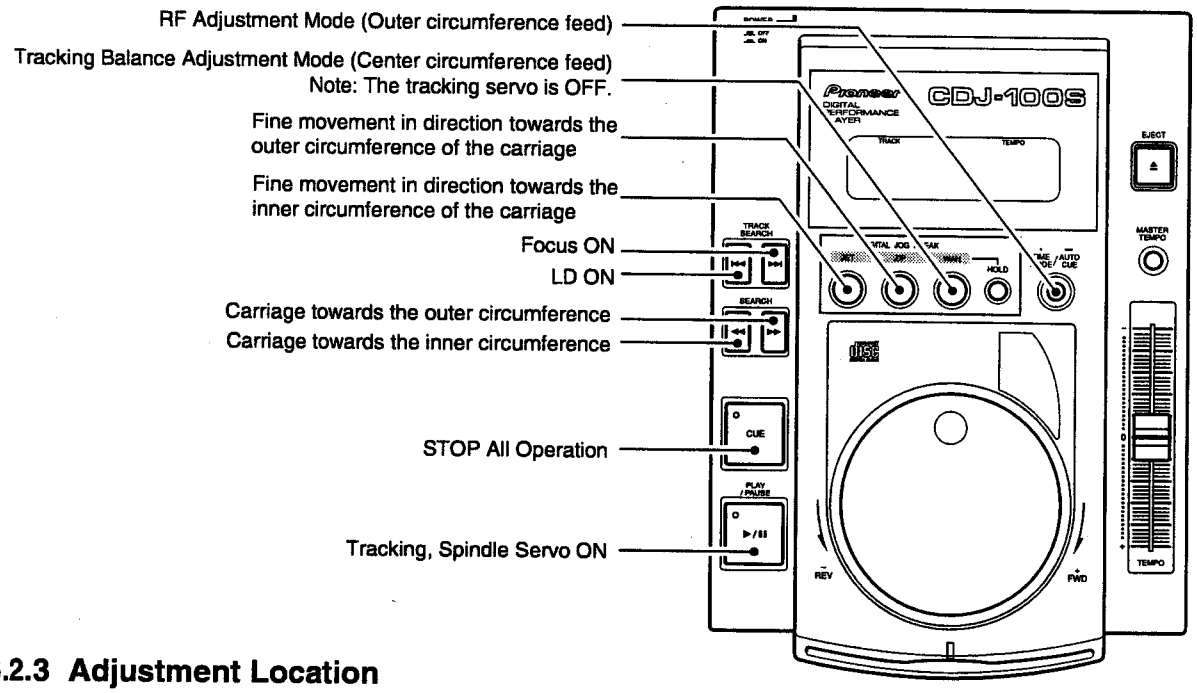
Switch Status Display



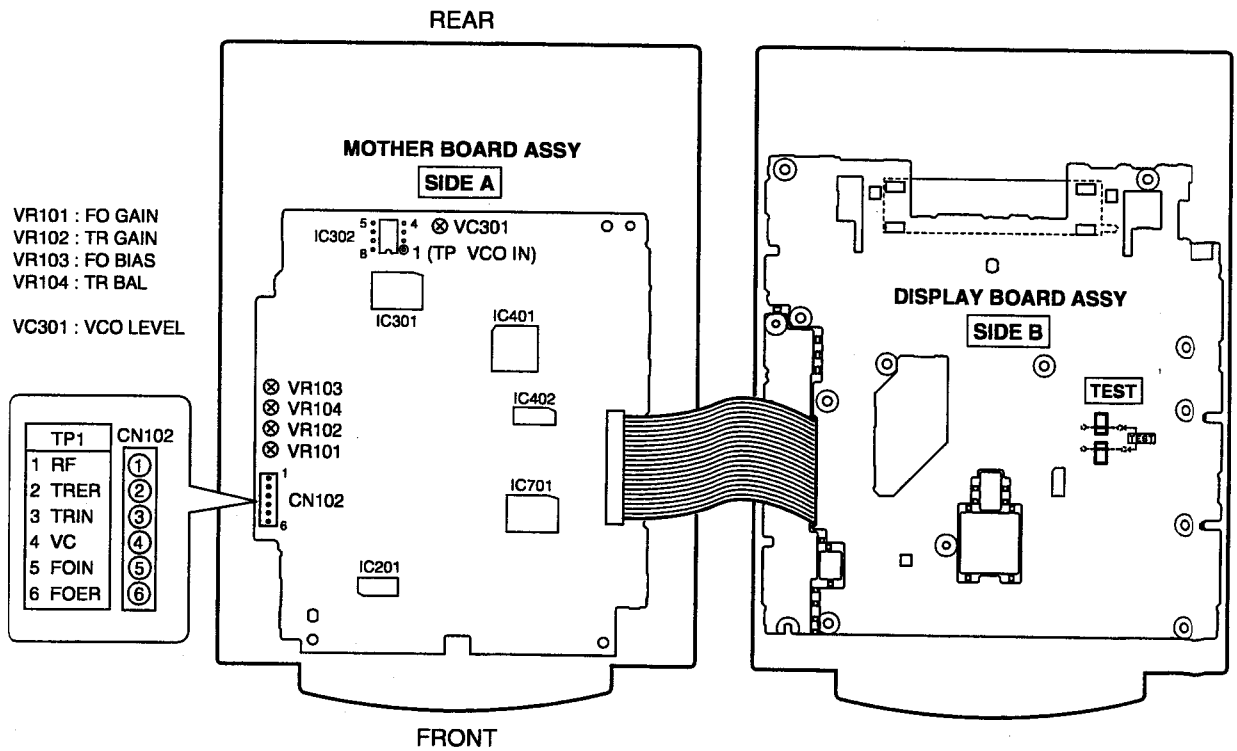
TEST MODE : STOP → CANCEL



6.2.2 Test Mode Key Locations



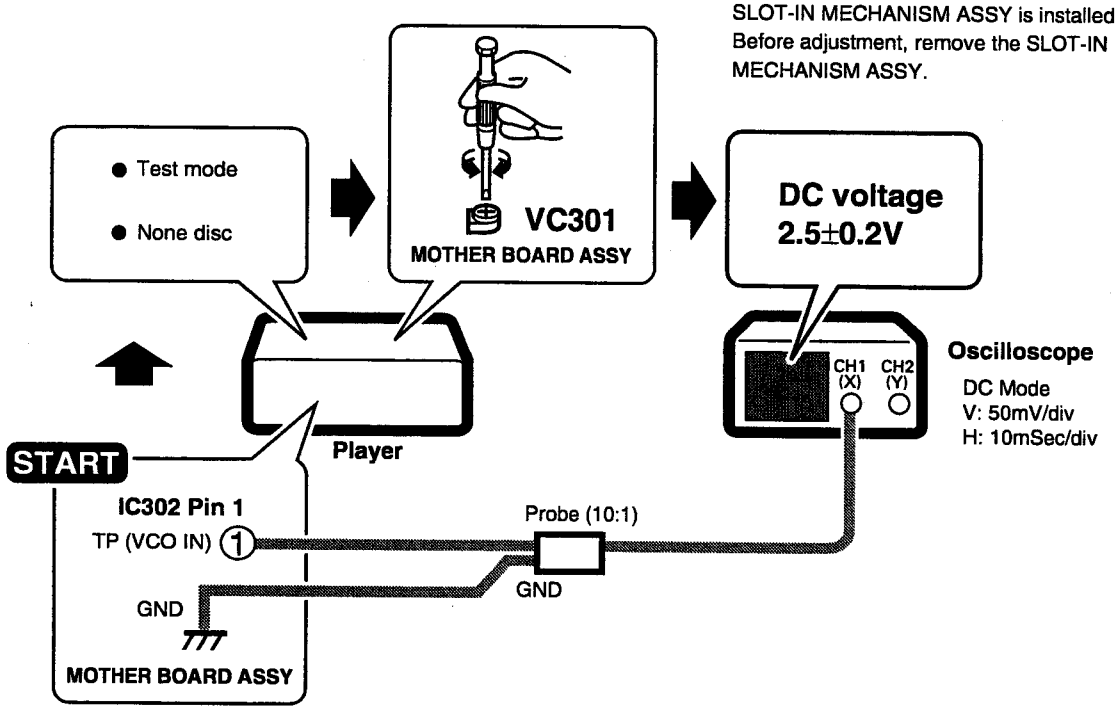
6.2.3 Adjustment Location



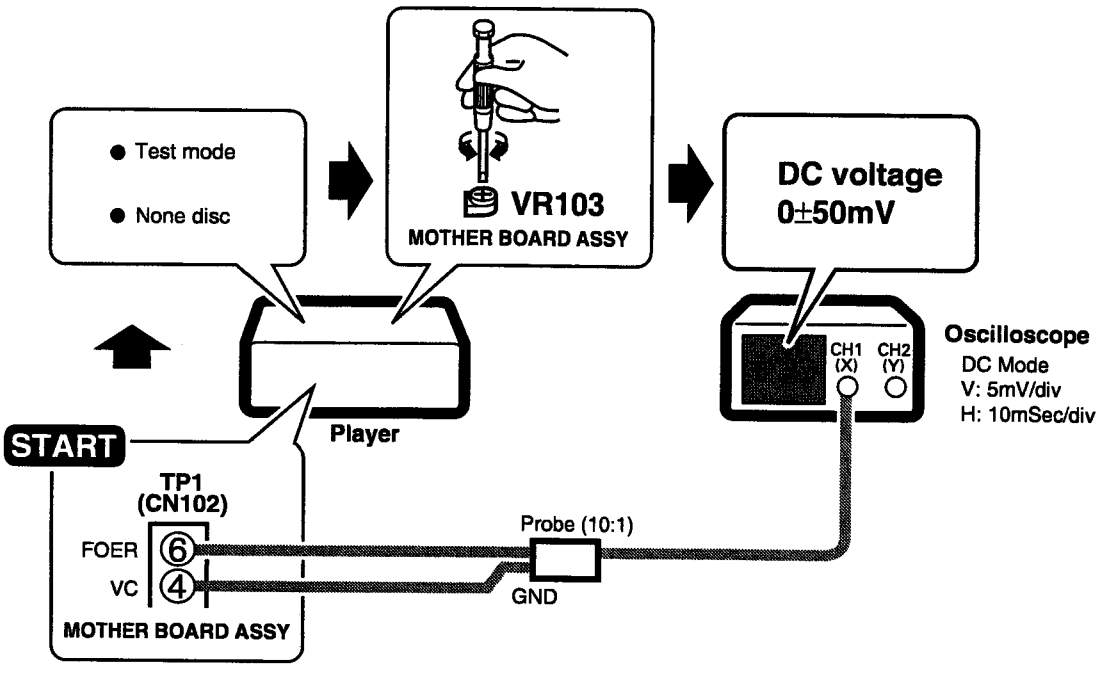
6.2.4 Check and Adjustment

1. VCO Adjustment

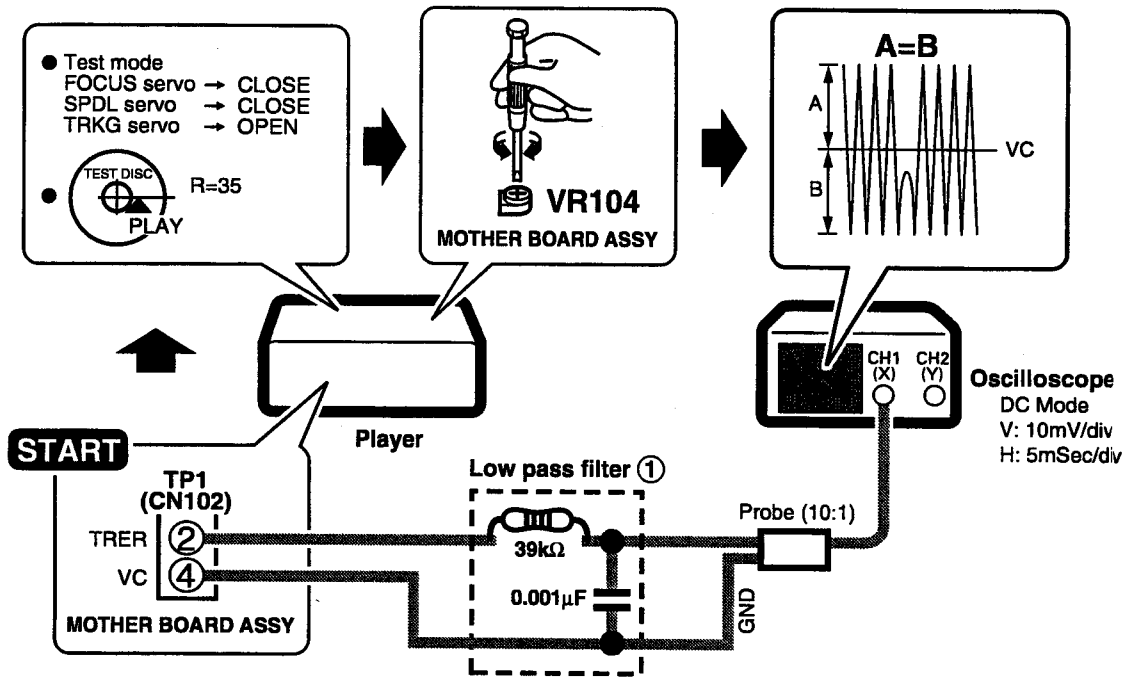
Note: Adjustment of VC301 may not be made if the SLOT-IN MECHANISM ASSY is installed. Before adjustment, remove the SLOT-IN MECHANISM ASSY.



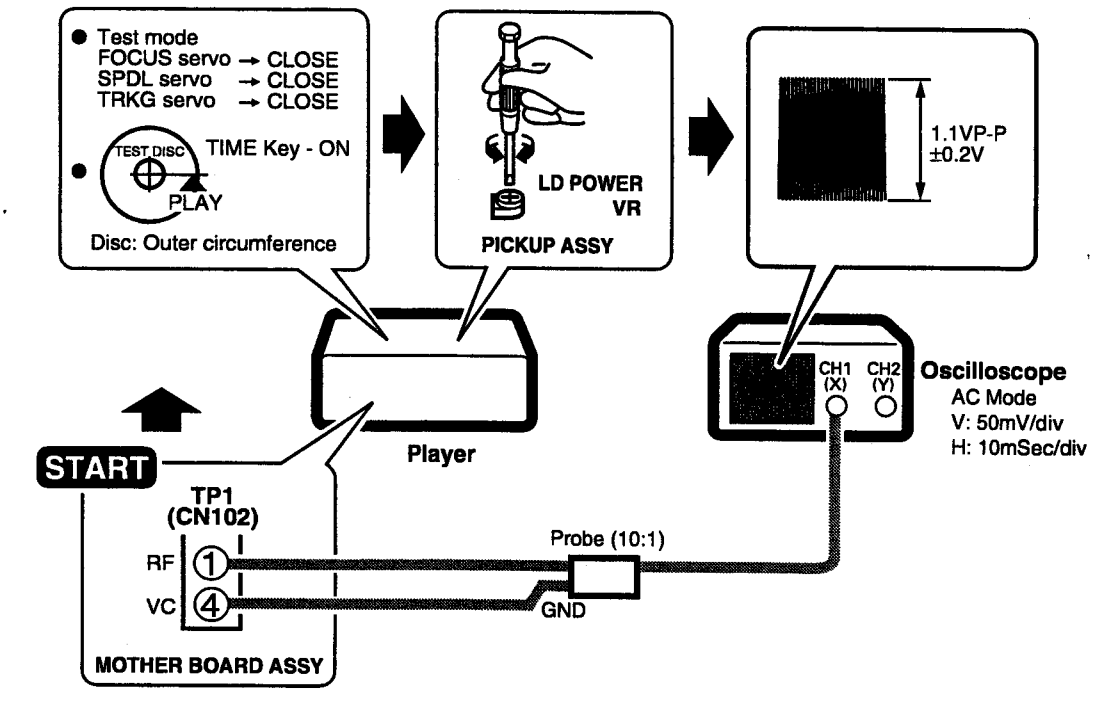
2. Focus BIAS Adjustment



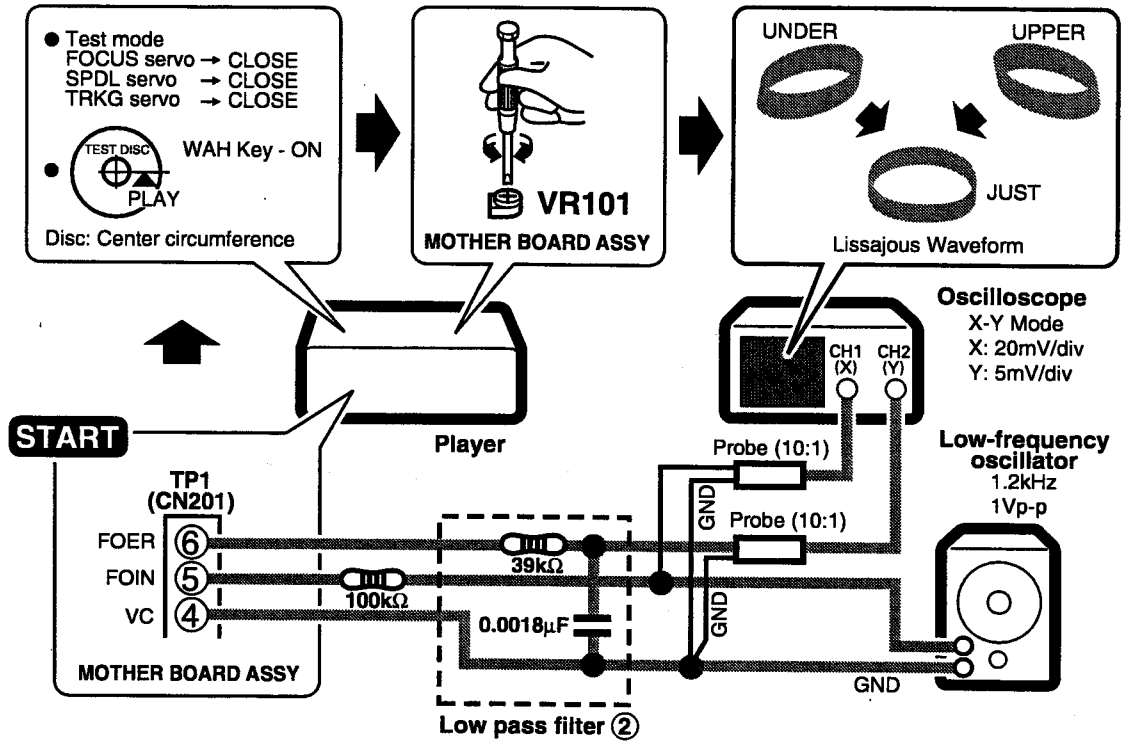
3. Tracking Error Barance Adjustment



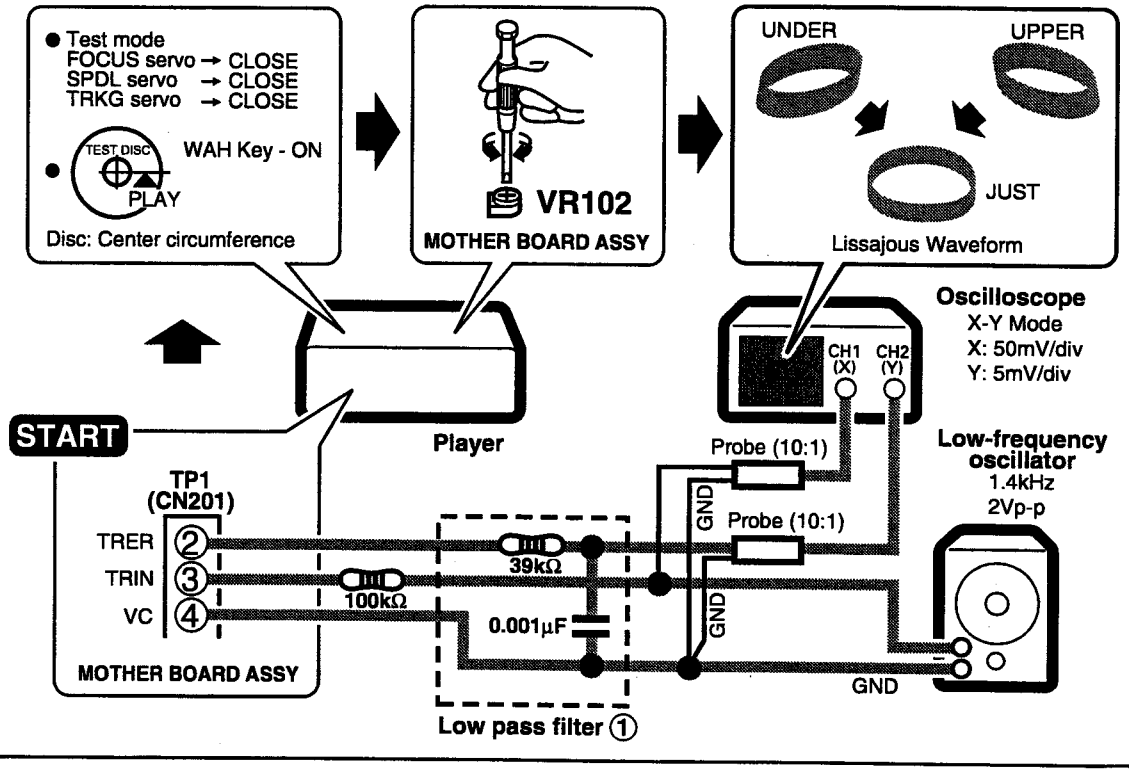
4. RF Level Adjustment



5. Focus Servo Loop Gain Adjustment



6. Tracking Servo Loop Gain Adjustment



7. GENERAL INFORMATION

7.1 PARTS

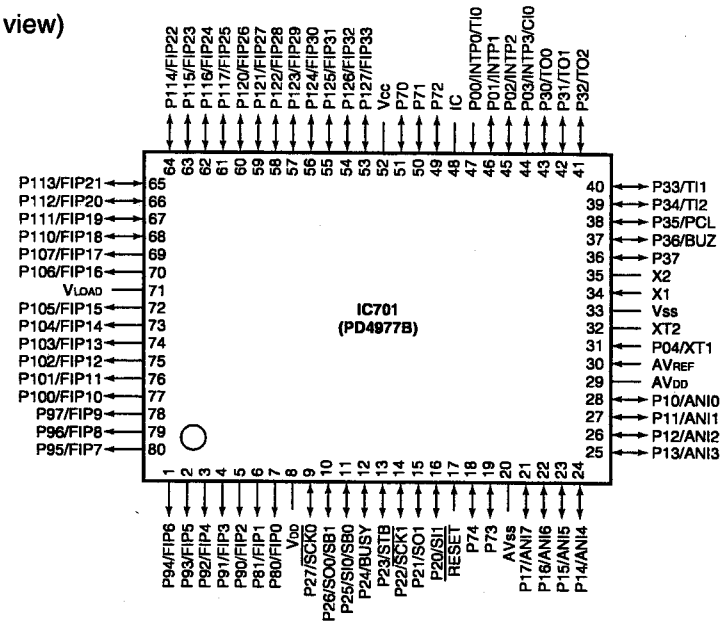
7.1.1 IC

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

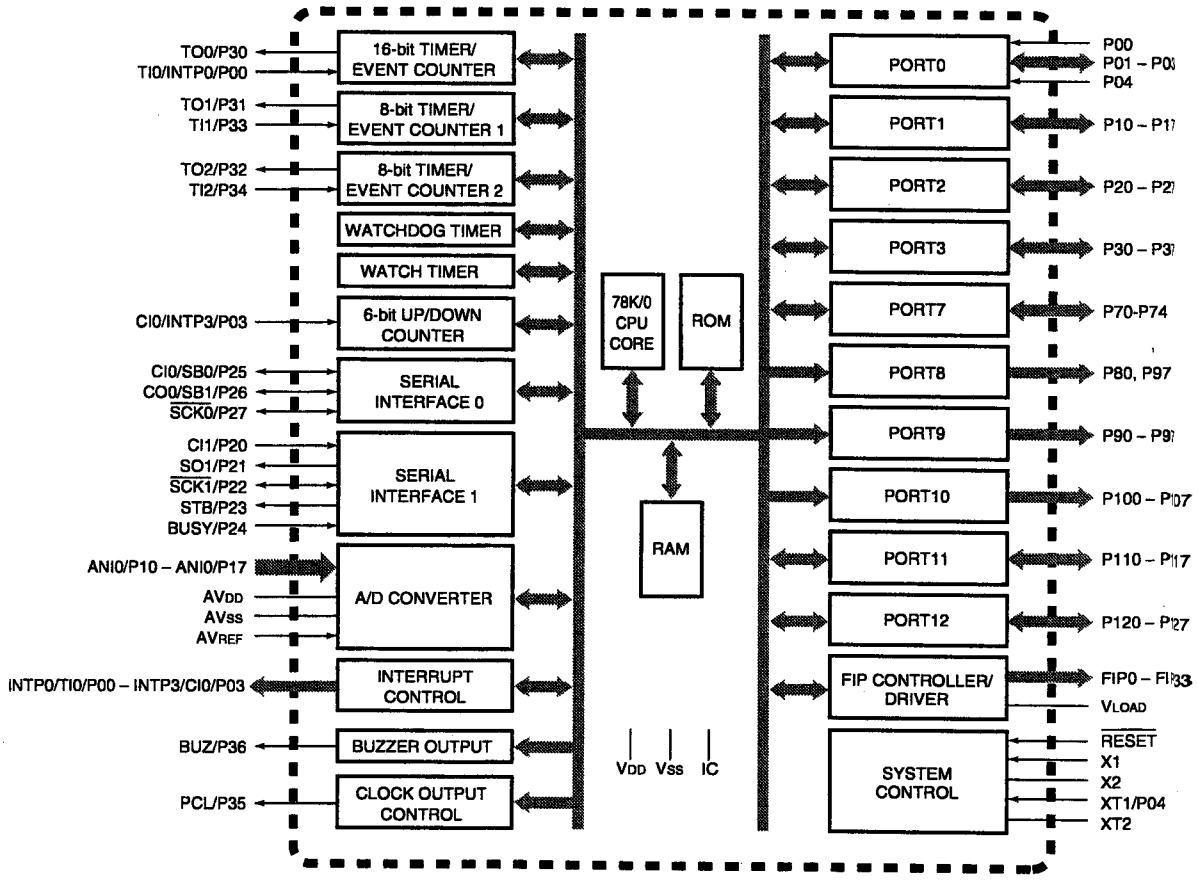
■ PD4977B (IC701: MOTHER BOARD ASSY)

● System Control Micro-computer

● Pin Assignment (Top view)



● Block Diagram



● Pin Function

No.	Name	I/O	Description
1	GRID 7	O	FL grid output 7
|	|		|
7	GRID 1		FL grid output 1
8	VDD	—	Connected to VDD.
9	CNT2	I	External control input
10	CNT1	I/O	External control input/output
11	DSPS	I	DSP memory sampling. (During sampling: H)
12	P0	O	Not used
13	INT1	O	
14	CLOK	O	Serial clock [for IC301 (CXD2500BQ)]
15	DATA	O	Serial data output [for IC301 (CXD2500BQ)]
16	SQSO	I	Sub-code Q serial data input.
17	$\overline{RST}$	I	CPU reset. (L : reset)
18	DSPC	I	DSP data compare input. (H: comparing)
19	DPDT	I/O	DSP data output
20	GND ref	—	Ground potential for the A/D converter.
21	$\overline{RST3}$	O	DSP reset output (L : reset)
22	DPCK	O	DSP clock output
23	MD2	O	IC301 (CXD2500BQ) Digital out control terminal (L: OFF, H: ON)
24	INT0	O	Not used
25	ATB	I	A/D input for ATB. (above 0.5 V : ATB, below : no ATB)
26	SERR	I	A/D input to control the stepping motor.
27	CT	I	Slider center tap voltage input.
28	ADIN	I	Slider voltage input.
29	VDD	—	Analog power for the A/D converter.
30	VDD ref	—	Standard voltage input for the A/D converter.
31	FCOK	I	Focus OK input. (H : OK, L : NG)
32	XT2	—	Not used
33	GND	—	Connected to GND.
34	X1	—	Oscillator pulses for the main system. (4.194304 MHz)
35	X2		
36	LPS1	I	Load position SW1 input (Switch ON: L/ OFF: H)
37	LOAD2	I/O	Slot-in motor output 2
38	S1TJ	O	Servo control output (1 Track Jump: H)
39	LOAD	I/O	Slot-in motor output 2
40	GFS	I	Frame sync lock input. (H : OK, L : NG)

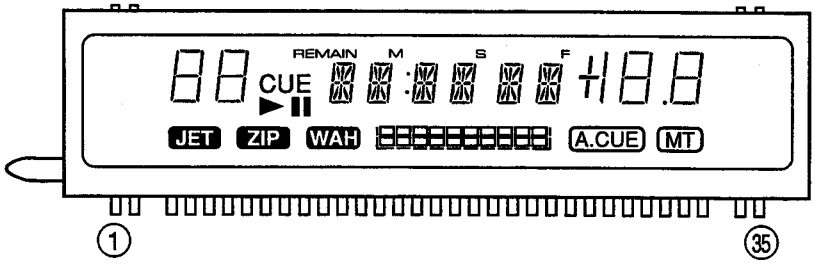
No.	Name	I/O	Description
41	STCK	O	Stepping motor control output
42	XLAT	O	LSI control data latch pulse
43	LDON	O	Laser diode output (L: OFF, H: ON)
44	PALS	I	Interrupt input for RAM-internal display pulses.
45	FG	I	FG pulse input
46	SCOR	I	Interrupt input for sub-code sync
47	JOG1	I	Interrupt input for jog dial pulses
48	IC	—	Connected to GND.
49	F/R	O	Stepping motor forward/reverse output
50	ATSQ	O	Auto focus output (During auto focus: H)
51	$\overline{INSD}$	I	Slider inside switch input. (L : inside)
52	VDD	O	Connected to VDD.
53	SENS	I	LSI operation status input
54	TOFF	O	Switching analog switch output (Tracking ON/OFF: H/L, Track count search: H)
55	THOLD	O	Switching analog switch output (1, 10 and 100 track jump: H)
56	$\overline{MUTE}$	O	Muting output (L: ON, H: OFF)
57	JOG2	I	Jog dial pulse input
58	KD2	I	Key-scan data input
|	|		
60	KD0		
61	DSW	I	Digital out ON/OFF input switch (L: ON, H: OFF)
62	LPS2	I	Load position SW2 input (Switch ON: L/ OFF: H)
63	SEG12	O	FL segment output 12
64	SEG1	O	FL segment output 1
|	|		|
70	SEG7		FL segment output 7
71	VLOAD	—	Connected to FIP controller/driver pull-down resistance. (–31V)
72	SEG8	O	FL segment output 8
|	|		|
75	SEG11		FL segment output 11
76	NC	O	Not used
77	GRID11	O	FL grid output 11
|	|		|
80	GRID8		FL grid output 8

7.1.2 DISPLAY

■ DEL1031 (V601: DISPLAY BOARD ASSY)

● FL Tube

● Pin Assignment

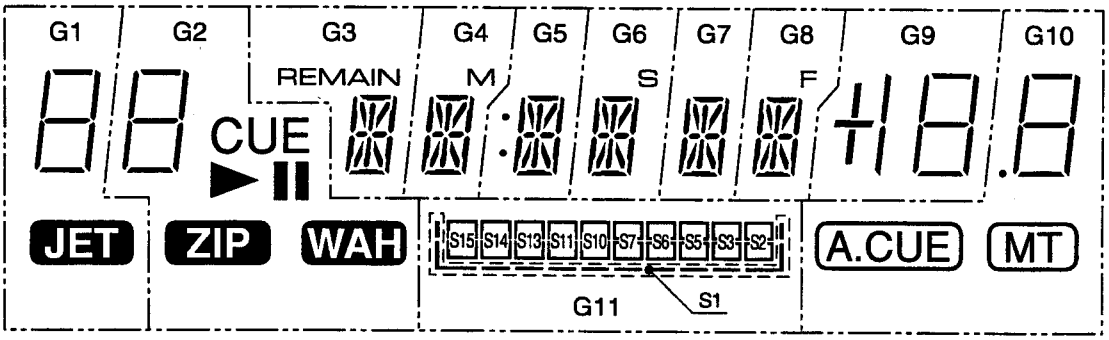


Note) F1, F2: Filament G1 to G11: Grid
S1 to S15: Anode NP: No pin
NL: No Lead

● Pin Connection

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Assignment	F1	F1	NP	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	NL	NL	NL	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	NP	F2	F2

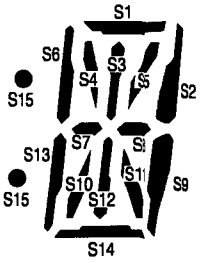
● Anode and Grid Assignment (1/2)



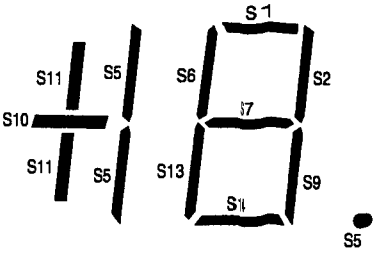
● Anode and Grid Assignment (2/2)

	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11
S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1
S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2
S3	JET	WAH	S3	S3	S3	S3	S3	S3			S3
S4			S4	S4	S4	S4	S4	S4			
S5		ZIP	S5	S5	S5	S5	S5	S5	S5	S5	S5
S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7
S8			S8	S8	S8	S8	S8	S8			
S9	S9	S9	S9	S9	S9	S9	S9	S9	S9	S9	
S10		CUE	S10	S10	S10	S10	S10	S10	S10	A.CUE	S10
S11		▮▮	S11	S11	S11	S11	S11	S11	S11	MT	S11
S12			S12	S12	S12	S12	S12	S12			
S13	S13	S13	S13	S13	S13	S13	S13	S13	S13	S13	S13
S14	S14	S14	S14	S14	S14	S14	S14	S14	S14	S14	S14
S15		▶	REMAIN	M	S15	S		F			S15

G3 to G8



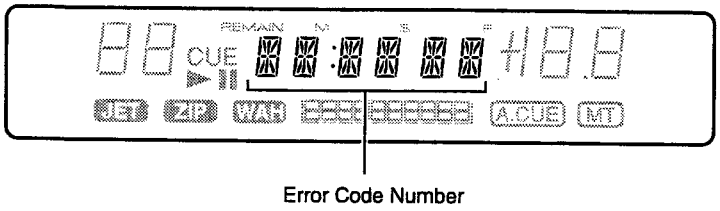
G1, G2, G9, G10



7.2 DIAGNOSIS

7.2.1 ERROR DISPLAY

When the player detects an error during operation, if will immediately stop and display an error code in the display window.



Displayed Error Code Number	Type of Error	Error Contents	Possible Cause → Remedy
E-7201	TOC READ ERROR	TOC date cannot be read after 20 seconds.	The disc is soiled.
E-7202	FG PULSE ERROR	Disc is rotating, but rotation cannot be ascertained.	Either IC201 (spindle driver IC) or Pin 45 of IC701 (system control microcomputer) is damaged.
E-8301	PLAYER ERROR	Disc loaded cannot be played properly (GFS NG).	• The disc is soiled. • The disc is scarred.
E-8302	PLAYER ERROR	Disc loaded cannot be played properly (FOCUS NG)	• The disc is soiled. • The disc is scarred.
E-9101	S901 SW MECHANICAL ERROR	The servo mechanism is not clamped even after the max. operation time has passed.	• The slot-in mechanism is defective. • S901 SW is damaged.
E-9103	MECHANICAL TIME OUT	The pickup does not return to the inside even after the max. operation time has passed. (INSIDE: 5s)	The servo mechanism is defective.

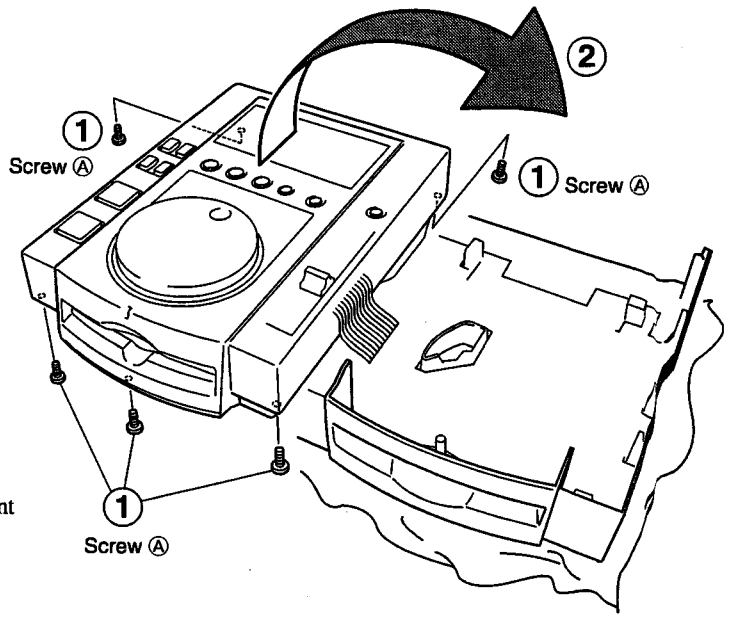
7.2.2 DISASSEMBLY

<< PRECAUTIONS >>
Be sure to disconnect the power cable from the AC outlet whenever removing the card flexible cable from the connector for maintenance, etc. Hold the both sides of the card flexible cable with both hands to disconnect the cable straight. (Even if the power has been switched OFF, previously charged voltage may remain in the capacitor, etc. If the electrodes of the card flexible cable and those of the connector come in contact by accident, a malfunction may occur.)

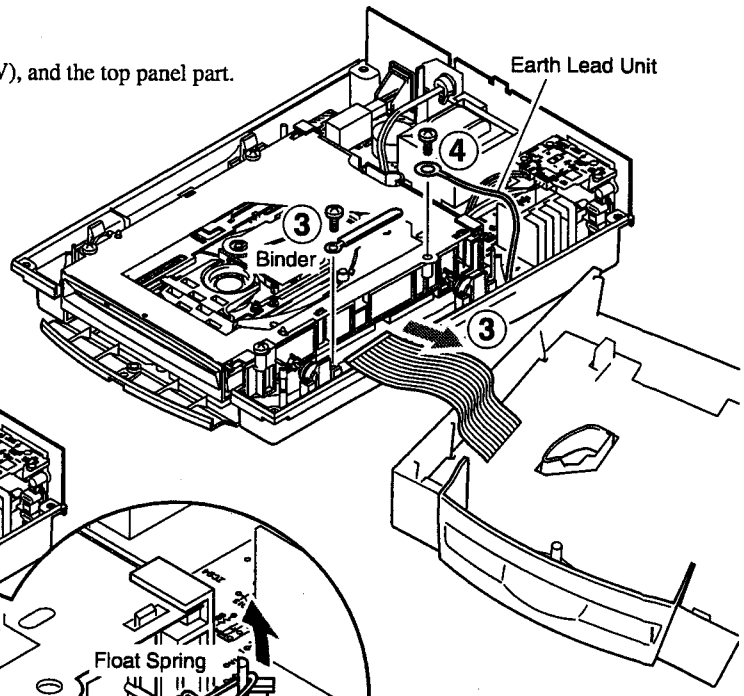
■ Removal of the Servo Mechanism Assy

① Remove the five screws Ⓐ at the bottom of the body.
② Open the top panel part as shown in the figure.

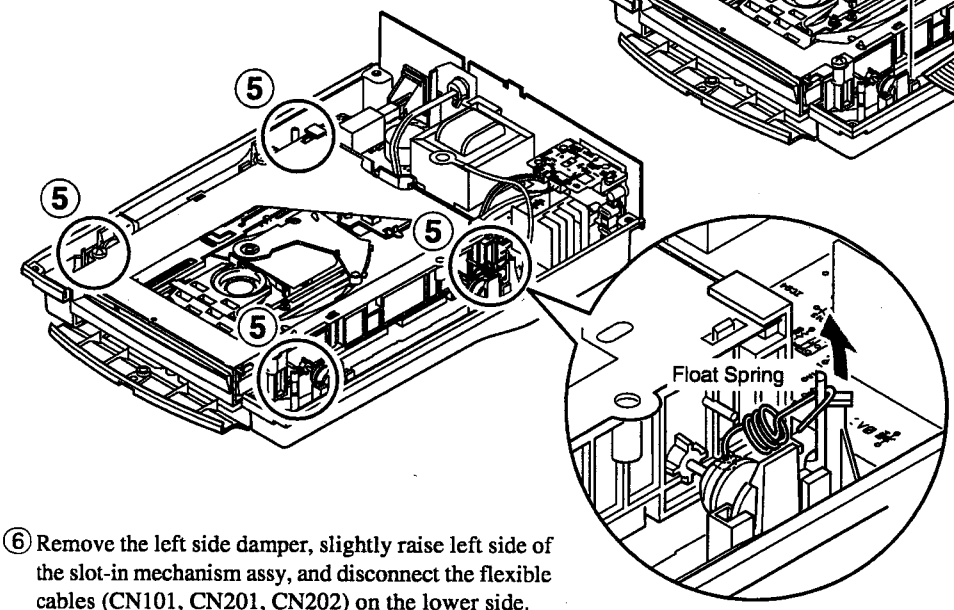
Note: Perform the work after spreading a cloth or similar to prevent damage to the top panel.



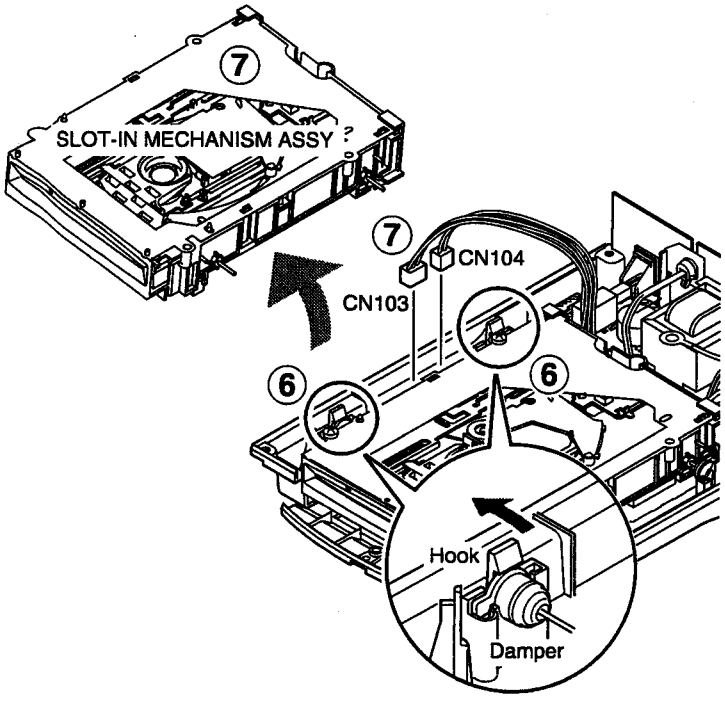
③ Remove the binder, the card flexible cable (36P FFC/60V), and the top panel part.
④ Disconnect the earth lead unit.



⑤ Remove the four float springs.

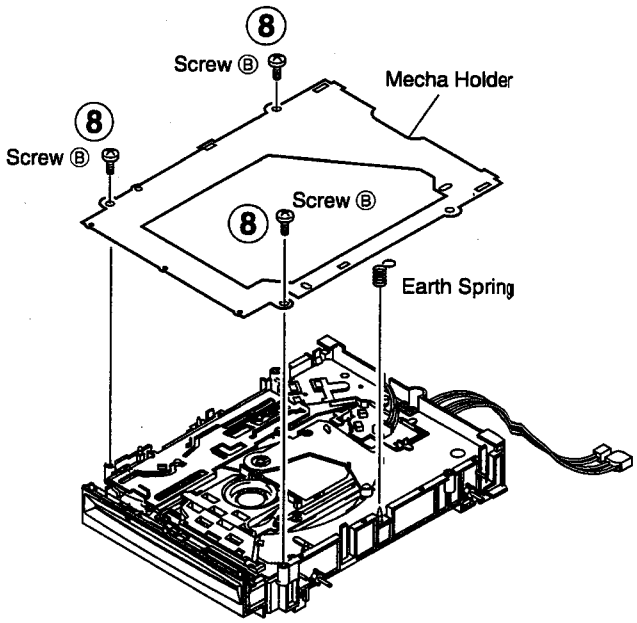


⑥ Remove the left side damper, slightly raise left side of the slot-in mechanism assy, and disconnect the flexible cables (CN101, CN201, CN202) on the lower side.
⑦ Disconnect the connectors (CN103, CN104), and slide the slot-in mechanism assy to the side on which the damper has been removed.

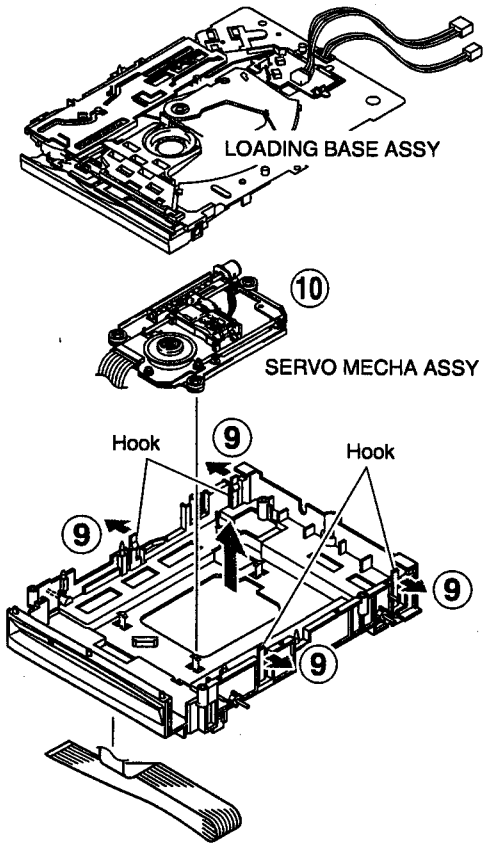


⑧ Remove the three screws Ⓑ, and then remove the mecha holder.

Note: An earth spring is located between the mecha holder and the mechanism assy (right side). Take care not to lose this spring.



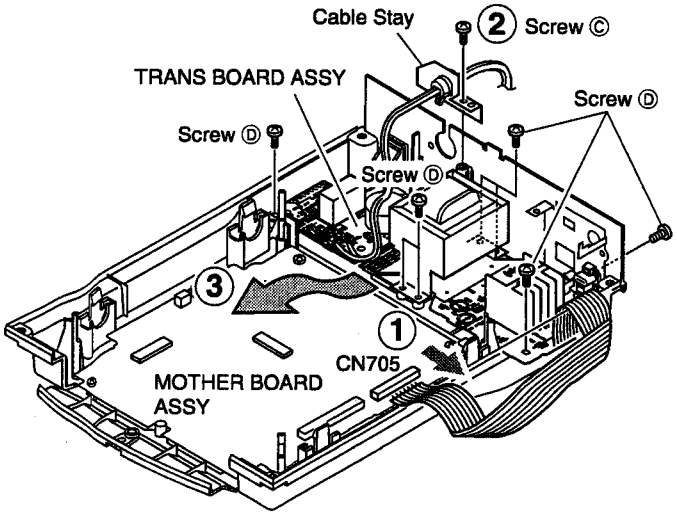
⑨ Disengage the hooks on the left and right side (2 each), and remove the loading base assy.
⑩ Remove the servo mechanism assy.



■ Removal of the Each P. C. Boards

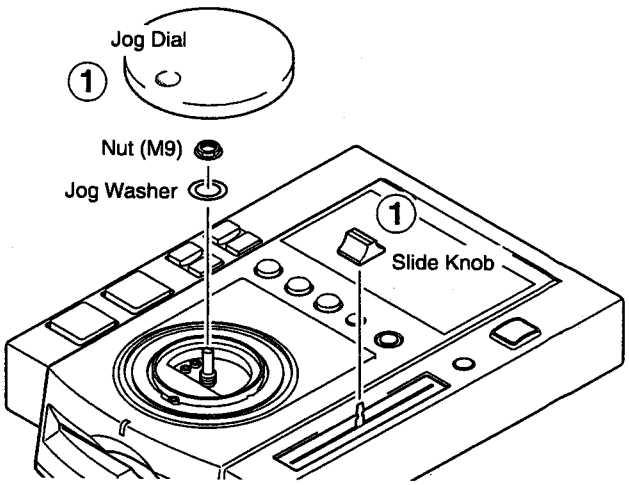
● TRANS BOARD Assy

① With the slot-in Mechanism Assy removed, disconnect the connector (CN705).
② Remove the screw Ⓒ and disconnect the cable stay.
③ Remove the seven screws Ⓓ, raise front side of the TRANS BOARD assy, and remove it.

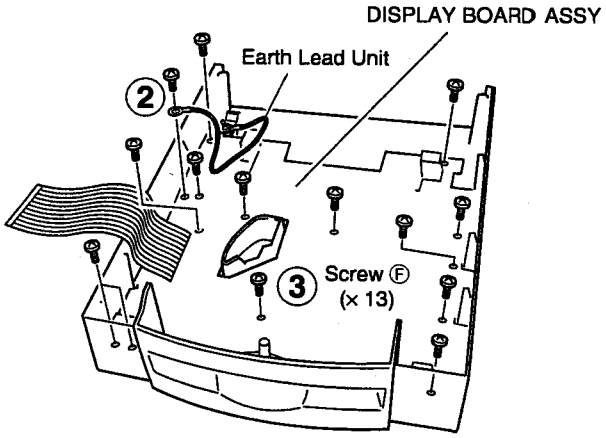


● DISPLAY BOARD Assy

① Remove the jog dial and the slide knob at the top of the body, and then remove the nut (M9) and jog washer.



② Disconnect the earth lead unit.
③ Remove the 13 screws Ⓕ.

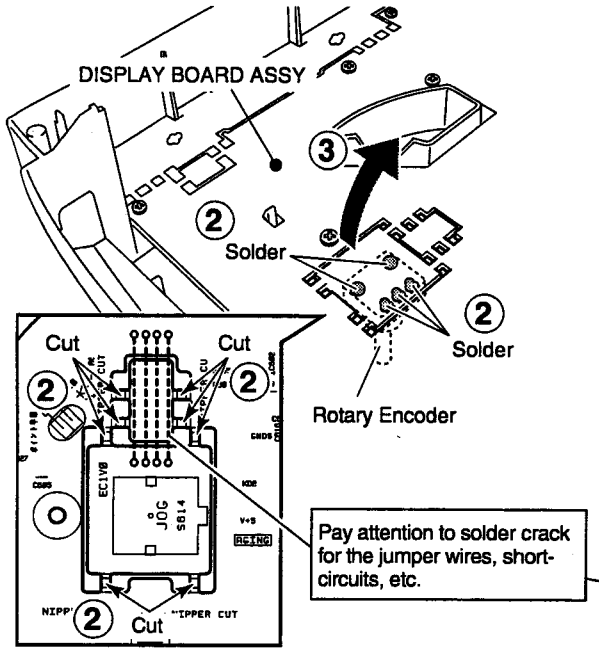


Caution for the time of assembly
Turn the jog dial and check for abnormalities like uneven turning etc.
Nut Tightening Torque: 8 kg · cm or less

■ Exchange Methods for Rotary Encoder (S614: DSX1051) and Slide Volume (VR601: DCV1009)

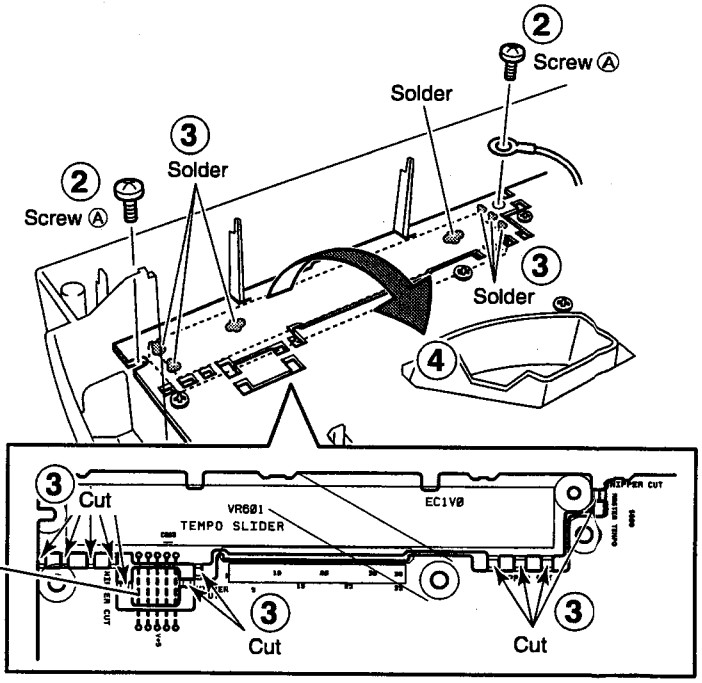
● Rotary Encoder (S614: DSX1051)

① Remove the jog dial, the nut (M9) and the jog washer at the top of the unit. (Refer to "Removal of the DISPLAY BOARD Assy".)
② Unsolder the rotary encoder and cut the 8 locations shown in the figure with nippers or similar.
③ Raise the P.C. board while paying attention to the jumper wires and remove the rotary encoder.



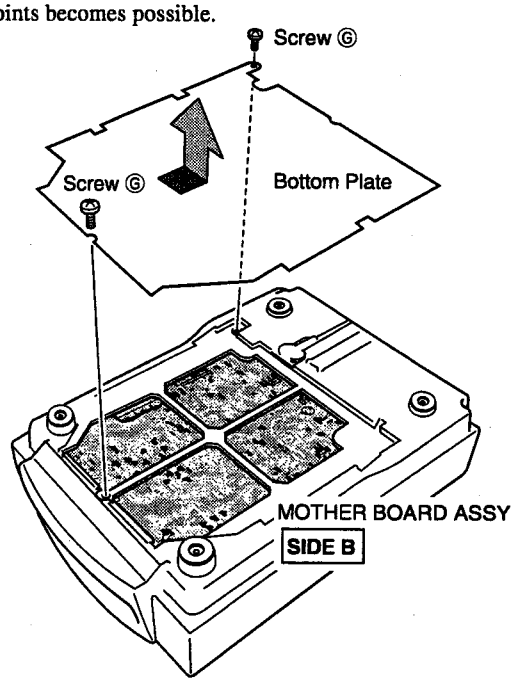
● Slide Volume (VR601: DCV1009)

① Remove the slide knob from the top of the unit. (Refer to "Removal of the DISPLAY BOARD Assy".)
② Remove the two screws Ⓐ.
③ Unsolder the slide volume and cut the 11 locations shown in the figure with nippers or similar.
④ Raise the circuit board while paying attention to the jumper wires and remove the slide volume.

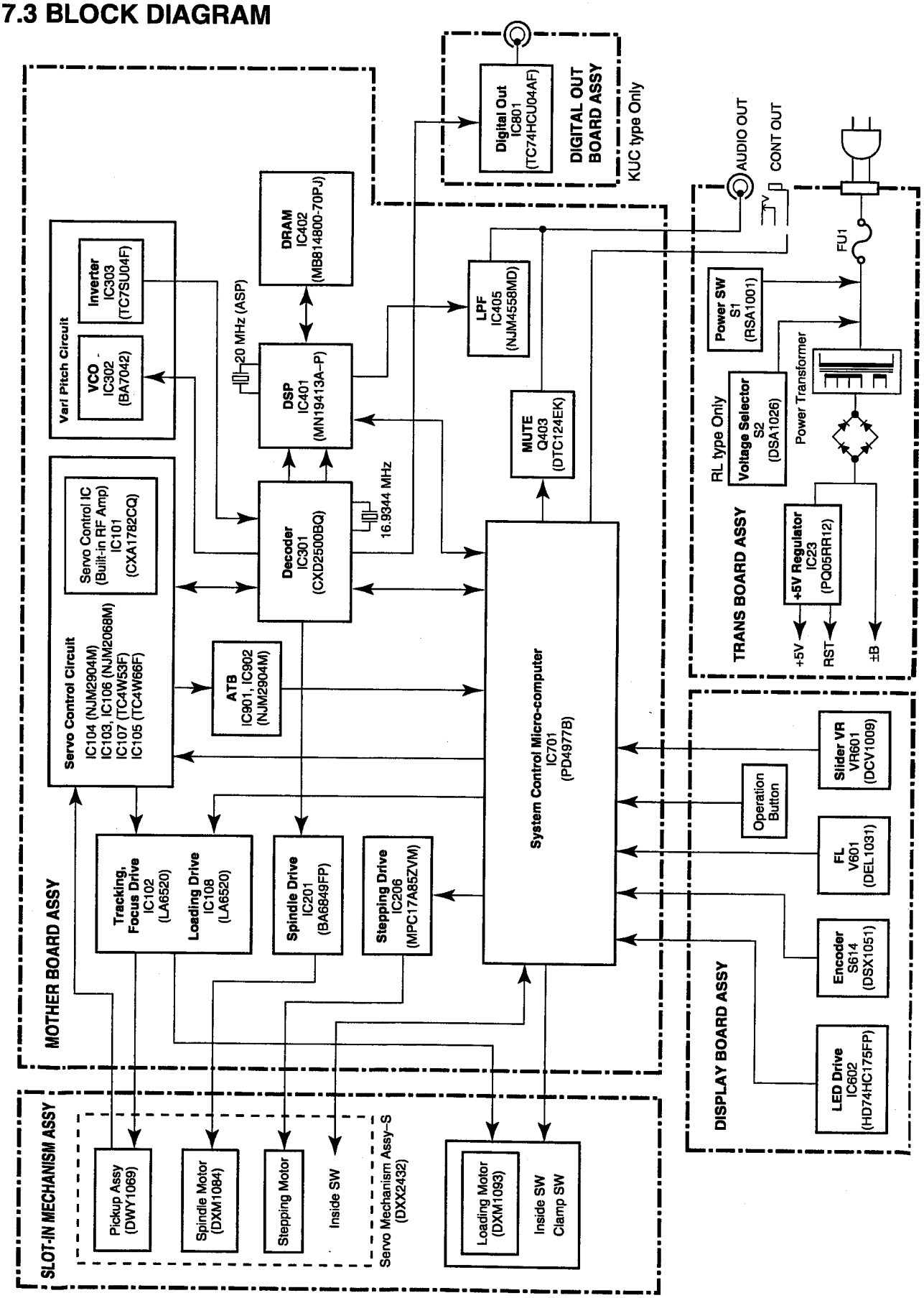


■ Measuring Points (TP) for Diagnosis

Remove the two screws Ⓖ at the bottom plate. Then measuring at the each points becomes possible.



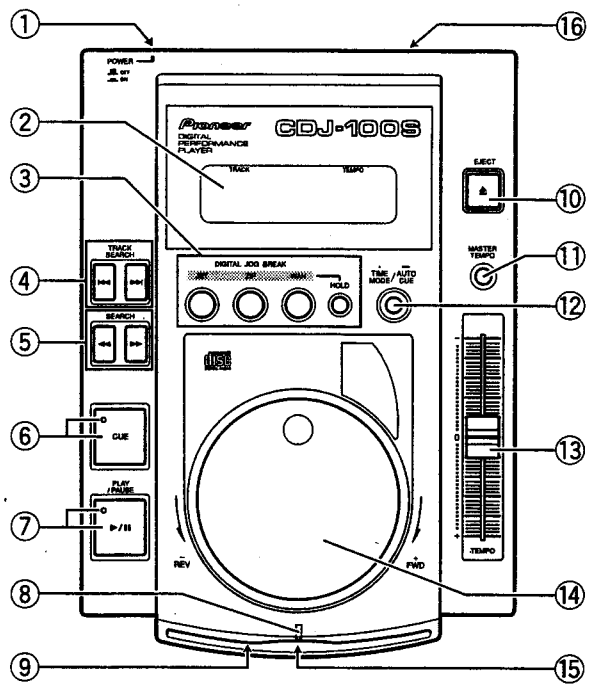
7.3 BLOCK DIAGRAM



8. PANEL FACILITIES AND SPECIFICATIONS

■ PANEL FACILITIES

Top Panel



① **POWER switch**
(Located on rear panel)
Provides electrical power to the player.

② **Display window**

③ **DIGITAL JOG BREAK buttons**
(JET, ZIP, WAH, HOLD)

④ **TRACK SEARCH buttons (|◄◄, ►►|)**

⑤ **SEARCH buttons (◄◄, ►►)**

⑥ **CUE button/indicator**

⑦ **PLAY/PAUSE button/indicator (►/II)**

⑧ **Loading indicator**
Flashes while disc is being loaded or removed through loading slot, and lights steadily when a disc is loaded in the player.

⑨ **Force ejection hole**

⑩ **EJECT button**
When this button is pressed, disc rotation stops and the disc is ejected from the player's loading slot.

⑪ **MASTER TEMPO button**
- The master tempo function is turned ON/OFF.
- If the button is held depressed for 2 seconds or more, the tempo adjust dial's variable range is changed (±10% or +10% to -16%). When the variable range is changed, the newly selected numerical range is displayed for about 2 seconds (10.0 / 16.0).
- The variable range is set by default to the ±10 setting whenever power is first turned on.

⑫ **TIME MODE/AUTO CUE button**
Two functions are available.

[Time display]
Each time this button is pressed, the time display changes between the elapsed playback time of the track and the remaining playback time of the track (REMAIN).
- The REMAIN display appears when power is turned ON.

[Auto Cue function]
When a disc is initially loaded or when performing track search, this function automatically sets the cue point (the point immediately preceding actual sound output).
- The Auto Cue function defaults to OFF when power is first turned on.

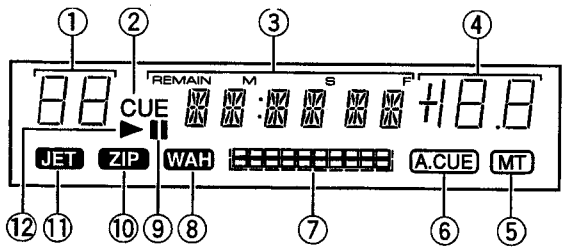
⑬ **TEMPO control knob**
The playback tempo can be changed with this knob. The center clicked position is for normal playback tempo. If you slide the knob (down) towards you (+ side), the music tempo quickens. If the knob is away from you (- side), the music tempo slows.

⑭ **Jog dial (+ FWD/- REV)**

⑮ **Disc loading slot**
Insert discs with label side up.
- When playing 8 cm (3-inch) discs, insert the disc in a commercially available CD adapter before loading it in the CD player.

⑯ **DIGITAL OUT switch**
(Located on rear panel)

Display Window



① **TRACK number display**
Displays the current number of the track playing.

② **CUE indicator**
Flashes when it is possible to input cue point, and lights steadily after the completion of input.

③ **Time display (REMAIN)**
The elapsed playback time of the track being played (when the REMAIN indicator is off) or the remaining playback time of the track being played (when the REMAIN indicator is on) is displayed in minutes (M) and seconds (S), or frames (F).

④ **Playback tempo display**
Tempo changes made with the TEMPO control knob are performed in 0.1% steps in the ±10% range. 0 to +10% in the +10% to −16% range is indicated in 0.1% steps and 0.2% steps from 0 to −16%.

⑤ **MT indicator**
Lights when the MASTER TEMPO function is used.

⑥ **A.CUE indicator**
Lights when the AUTO CUE function is used.

⑦ **Playback address display**
The elapsed playback time or remaining playback time of the track playing is roughly indicated with the full-scaled bar graph.
- When no disc is in the disc compartment ..... off
- When displaying elapsed playback time ..... lights up from the left side
- When displaying remaining playback time ..... turns off from the left side
- When remaining playback time is less than 30 seconds ..... blinks

⑧ **WAH indicator**
Lights or blinks when WAH function is active.

⑨ **Pause indicator (II)**
Blinks during pause mode.

⑩ **ZIP indicator**
Lights or blinks when ZIP function is active.

⑪ **JET indicator**
Lights or blinks when JET function is active.

⑫ **Play indicator (▷)**
Lights during playback.

■ SPECIFICATIONS

1. General

System ..... Compact disc digital audio system
Power requirementsAC 120 V, 60 Hz
Power consumption ..... 12 W
Operating temperature ..... +5°C – +35°C (+41 °F – +95 °F)
Operating humidity ..... 5% – 85%
(There should be no condensation of moisture.)
Weight ..... 2.2 kg (4 lbs 14 oz)
Dimensions ..... 217.7 (W) × 310.7 (D) × 94.5 (H) mm
8-9/16 (W) × 12-1/4 (D) × 3-3/4 (H) in.

2. Audio section

Frequency response ..... 4 Hz – 20 kHz (EIAJ)
Signal-to-noise ratio ..... 96 dB or more (EIAJ)
Output level ..... 2.0 V
Channels ..... 2-channel (stereo)

3. Accessories

- Operating instructions 1
- Audio cable 1
- Limited warranty 1

NOTE:
Specifications and design are subject to possible modification without notice.

Maintenance:

We recommend regular maintenance to ensure the safe and proper function of this unit.
Extended service life can be expected if the unit maintained properly.

Pioneer sound.vision.soul

PION -06002

Service Manual

ORDER NO.
RRV2578

COMPACT DISC PLAYER

CDJ-100S

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	CDJ-100S		
KUCXJ	O	AC120V	——
RLXJ	O	AC110V- 120V/ 220-240V	With the voltage selector
WYXJ	O	AC220- 240V	——

- **This service manual should be used together with the following manual(s):**

Model No.	Order No.	Remarks
CDJ-100S/ KUC, RL, WY	RRV2027	

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
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PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
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1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *Reference Nos. indicate the pages and Nos. in the service manual for the base model.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 → 56 x 10^1 → 561 ..... RD1/4PU 5 6 1 J
47k → 47 x 10^3 → 473 ..... RD1/4PU 4 7 3 J
0.5 → R50 ..... RN2H R 5 0 K
1 → 1R0 ..... RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k → 562 x 10^1 → 5621 ..... RN1/4PC 5 6 2 1 F

■ CONTRAST TABLE

CDJ-100S/KUCXJ and CDJ-100S/KUC are constructed the same except for the following :

Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			CDJ-100S/ KUC	CDJ-100S/ KUCXJ	
		PACKING			
P4 - 1		Pad (A)	DHA1411	DHA1480	
P4 - 2		Pad (B)	DHA1412	DHA1481	
P4 - 3		Pad (C)	DHA1413	DHA1482	
P4 - 4		Packing Case	DHG1852	DHG2022	
P4 - 6		Audio Cable (L= 1.5m)	VDE1033	VDE1052	
P4 - 7		Operating Instructions (English)	DRB1232	DRB1283	
P4 - 10		Polyethylene Bag	DHL1106	DHL1121	
P4 - 12	NSP	Caution SG	DRM1199	PRR1001	
		Control Cord (L= 1.0m)	PDE1247	PDE1267	For Packing (Accessories)
		Assistant Manual	DRH1044	Not used	For Packing (Accessories)
		EXTERIOR (1/2)			
P6 - 6		Earth Lead Unit/300V	DDF1010	DDF1022	
P6 - 7		Connector Assy	DKP3408	DKP3532	
P6 - 8		Connector Assy (2P)	DKP3409	DKP3533	
P6 - 19		Bottom Plate	DNH2341	DNH2511	
P6 - 20	NSP	Chassis	DNK3562	DNK3792	
P6 - 32	NSP	Binder	Z09-061	ZCB-069Z	
		EXTERIOR (2/2)			
P7 - 2		36P F-F-C/ 60V	DDD1131	DDD1187	

■ CONTRAST TABLE

CDJ-100S/RLXJ and CDJ-100S/RL are constructed the same except for the following :

Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			CDJ-100S/ RL	CDJ-100S/ RLXJ	
		PACKING			
P4 - 1		Pad (A)	DHA1411	DHA1480	
P4 - 2		Pad (B)	DHA1412	DHA1481	
P4 - 3		Pad (C)	DHA1413	DHA1482	
P4 - 4		Packing Case	DHG1851	DHG2024	
P4 - 6		Audio Cable (L= 1.5m)	VDE1033	VDE1052	
P4 - 7		Operating Instructions (English, Spanish, Chinese)	DRB1229	DRB1284	
P4 - 10		Polyethylene Bag	DHL1106	DHL1121	
P4 - 12	NSP	Caution SG	DRM1199	PRR1001	
P4 - 13	NSP	Caution Card 220V	ARR7003	ARR1003	
		Control Cord (L= 1.0m)	PDE1247	PDE1267	For Packing (Accessories)
		Assistant Manual	DRH1044	Not used	For Packing (Accessories)
		EXTERIOR (1/2)			
P6 - 6		Earth Lead Unit/ 300V	DDF1010	DDF1022	
P6 - 11	⚠	AC Power Cord	PDG1003	PDG1043	
P6 - 19		Bottom Plate	DNH2338	DNH2511	
P6 - 20	NSP	Chassis	DNK3561	DNK3794	
P6 - 32		Binder	Z09-061	ZCB-069Z	
		EXTERIOR (2/2)			
P7 - 2		36P F-F-C/ 60V	DDD1131	DDD1187	

■ CONTRAST TABLE

CDJ-100S/WYXJ and CDJ-100S/WY are constructed the same except for the following :

Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			CDJ-100S/ WY	CDJ-100S/ WYXJ	
		PACKING			
P4 - 1		PAD (A)	DHA1411	DHA1480	
P4 - 2		PAD (B)	DHA1412	DHA1481	
P4 - 3		PAD (C)	DHA1413	DHA1482	
P4 - 4		Packing Case	DHG1850	DHG2021	
P4 - 6		Audio Cable (L= 1.5m)	VDE1033	VDE1052	
P4 - 7		Operating Instructions (English, French, German, Italian, Dutch, Spanish)	DRB1227	DRB1282	
P4 - 10		Polyethylene Bag	DHL1106	DHL1121	
P4 - 12	NSP	Caution SG	DRM1199	PRR1001	
		Control Cord (L= 1.0m)	PDE1247	PDE1267	For Packing (Accessories)
		Assistant Manual	DRH1044	Not used	For Packing (Accessories)
	NSP	Mini Catalog	DRY1194	Not used	For Packing (Accessories)
		EXTERIOR (1/2)			
P6 - 6		Earth Lead Unit/ 300V	DDF1010	DDF1022	
P6 - 11	⚠	AC Power Cord	PDG1003	PDG1043	
P6 - 19		Bottom Plate	DNH2338	DNH2511	
P6 - 20	NSP	Chassis	DNK3553	DNK3791	
P6 - 32		Binder	Z09-061	ZCB-069Z	
		EXTERIOR (2/2)			
P7 - 2		36P F-F-C/ 60V	DDD1131	DDD1187	
P7 - 27	NSP	Caution Label HE	VRW1297	PRW1233	